--233.(New Claim)An election method including:

(a) registering a plurality of voters by providing each a unique voter ID;

(b) distributing to at least a portion of said plurality of voters a ballot including a unique ballot ID and a list of plain data;

(c) authenticating a cast ballot of said plurality of ballots; and

(d) reconciling said cast ballot.--

--234.(New Claim)An election system including:

(a) registering a plurality of voters by providing each a unique voter ID;

(b) distributing to at least a portion of said plurality of voters a ballot including a unique ballot ID and a list of plain data;

(c) authenticating cast ballots;

(d) reconciling said authenticated cast ballots; and

(e) tallying said authenticated cast ballots.--

Remarks

The Applicants first wish to thank the Examiner for the courtesy extended to Applicant's attorney during the telephonic communication in December 2001 and January 2002 concerning the submission of this Preliminary Amendment.

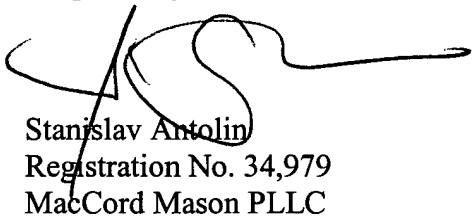
Claims 1-16 are pending. Claims 10(second occurrence)-15 and the Claims from which they depend have been renumbered to correct the typographical misnumbering thereof. New Claims 17-234 have been added. In the marked-up version of the Claims, locations of the originally-filed specification have been identified to show that specific support may be found at at least these locations of the specification.

Also, proposed changes to originally filed Figures 1-4 and proposed Figures 1A, 2A, 3A, 4A, 5, 6, 7, 8, 9, 10, 11 and 12 are being submit in red. These Figures correspond to the subject matter of new Claims 17-234, support of which has been set out in the marked-up version of the Claims.

Applicants believe that this amendment contains no new matter.

The Applicants submit that by this amendment they have placed the case in condition for immediate allowance and such action is respectfully requested. However, if any issue remains unresolved, Applicant's attorney would welcome the opportunity for a telephone interview to expedite allowance and issue.

Respectfully submitted,



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In the Specification:

Please replace the paragraphs on page 11, lines 15-22 of the Substitute Specification with the following new paragraphs:" --

FIGURE 1 is a block diagram illustrating communication between facilities during the registration phase according to an aspect of the present invention;

FIGURE 1A is a flow chart of the communication between facilities of FIGURE 1 during the registration phase according to an aspect of the present invention;

FIGURE 2 is a block diagram illustrating interaction between facilities during the pre-voting phase according to an aspect of the present invention;

FIGURE 2A is a flow chart of the interaction between facilities of FIGURE 2 during the pre-voting phase according to an aspect of the present invention;

FIGURE 3 is a block diagram illustrating interaction between facilities during the voting phase according to an aspect of the present invention;

FIGURE 3A is a flow chart of the interaction between facilities of FIGURE 3 during the voting phase according to an aspect of the present invention;

FIGURE 4 is a sample ballot and a sample matching pair according to an aspect of the present invention;

FIGURE 4A is a flow chart of the interaction between facilities of FIGURE 1 during the announcement phase according to an aspect of the present invention;

FIGURE 5 is a block diagram illustrating an election system according to an aspect of the present invention;

FIGURE 6 is a block diagram illustrating some details of a registrar of FIGURE 5 according to an aspect of the present invention;

FIGURE 7 is a block diagram illustrating some details of an authenticator of FIGURE 5 according to an aspect of the present invention;

FIGURE 8 is a block diagram illustrating some details of a verifier of FIGURE 5 according to an aspect of the present invention;

FIGURE 9 is a block diagram illustrating some details of a tally system of FIGURE 5 according to an aspect of the present invention;

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FIGURE 10 is a block diagram illustrating some details of a matcher of FIGURE 9 according to an aspect of the present invention;

FIGURE 11 is a block diagram illustrating some details of a counter of FIGURE 9 according to an aspect of the present invention; and

FIGURE 12 is a block diagram illustrating some details of a distributor of FIGURE 9 according to an aspect of the present invention.--.

Please add the following new paragraphs on page 29 of the Substitute Specification immediately after line 23: --

Referring now to the drawings in general and Figure 5 in particular, it will be understood that the illustrations are for the purpose of describing preferred embodiments of the invention and are not intended to limit the invention thereto. As best seen in Figure 5, an election system, generally designated 10, is shown constructed according to an embodiment of the present invention. In this embodiment, the election system 10 includes a registrar 12, a plurality of ballots 14 as depicted in Figure 3, a plurality of authentication codes 112, a data reconciler 18, and a tally system 34. As seen in Figures 5 and 6, the registrar 12 includes a registrar link 20 that permits communication with at least a plurality of voters 22. For example, the registrar link 20 permits a voter 28 of the plurality of voters 22 to obtain a unique voter ID 24 by registering with the registrar 12. The plurality of ballots 14 is for distribution to at least a portion of the plurality of voters 22. Each ballot includes a unique ballot ID 26 and a corresponding list of plain data 30 (sometimes herein referred to as a plain text version). The plurality of authentication codes 112 is generated such that one authentication code 112 is used with a corresponding cast ballot of the plurality of ballots 14. As seen in Figure 5, the data reconciler 18 includes a data reconciler link 32 for communication to at least the registrar 12. Also, as seen in Figures 5 and 9, the tally system 34 includes a tally system link 36 for communication to at least the data reconciler 18.

In an alternative embodiment according to the present invention, an election system 10 includes a registrar 12, a plurality of ballots 14 and a data reconciler 18. The registrar 12 includes a registrar link 20 that permits communication. For example, the registrar

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link 20 permits a voter 28 of the plurality of voters 22 to obtain a unique voter ID 24 by registering with the registrar 12. At least a portion of the plurality of ballots 14 is for distribution to at least a portion of the plurality of voters 22. Each ballot includes a unique ballot ID 26 and a corresponding list of plain data 30. The data reconciler 18 includes a data reconciler link 32 for communication to at least the registrar 12.

In still another alternative embodiment of the present invention, an election system 10 includes a registrar 12, a plurality of ballots 14, a plurality of authentication codes 112 and a data reconciler 18. The registrar 12 includes a registrar link 20 that permits communication. For example, the registrar link 20 permits a voter 28 of the plurality of voters 22 to obtain a unique voter ID 24 by registering with the registrar 12. At least a portion of the plurality of ballots 14 is for distribution to at least a portion of the plurality of voters 22. Each ballot may include a unique ballot ID 26 and a corresponding list of plain data 30. The plurality of authentication codes 112 is generated such that one authentication code 112 is used with a corresponding cast ballot of the plurality of ballots 14. The data reconciler 18 includes a data reconciler link 32 for communication to at least the registrar 12.

As seen in Figures 5, 9 and 11, the election system 10 includes a counter 40. As depicted in Figure 11, the counter 40 of election system 10 includes a counter link 42, a ballot generator 44, a ballot authenticator 64, a counter database 72, a counter key generator 74, a counter database encryptor 76, and a counter database decryptor 80. The counter link 42 of the counter 40 provides for communication within at least the election system 10.

The ballot generator 44 generates the plurality of ballots 14. A secure ballot generator is preferred. As depicted in Figure 11, the ballot generator 44 includes a matching pair generator 46, a ballot encryption key generator 52, a ballot encryptor 56, and a ballot decryption key generator 60. The matching pair generator 46 generates a matching pair 50 corresponding to each unique ballot ID 26 and each corresponding list of plain data 30 for each ballot of the plurality of ballots 14. The ballot encryption key generator 52 generates a plurality of ballot encryption keys 54 corresponding to each of the

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plurality of ballots 14. A preferred ballot encryption key generator 52 is a ballot encryption key-decryption key pair generator. The ballot encryptor 56 encrypts the corresponding list of plain data 30 for each of the plurality of ballots 14 using the corresponding plurality of ballot encryption keys 54. The ballot decryption key generator 60 generates a plurality of ballot decryption keys 62 corresponding to the plurality of ballots 14 to facilitate decryption thereof. As noted, the ballot encryption key generator 52 may be a ballot encryption key-decryption key pair generator in which case the ballot decryption key generator 60 may be part of the ballot encryption key generator 52

The ballot authenticator 64 authenticates cast ballots. As depicted in Figure 11, the ballot authenticator 64 includes a tallier 66 and a decryptor 70. The tallier 66 tallies cast ballots, preferably after the cast ballots have been determined to be authentic. The decryptor 70 decrypts cast ballots prior to tallying cast ballots.

The counter database 72 includes at least the unique ballot IDs 26 of the plurality of ballots 14. As depicted in Figure 11, counter database 72 further includes a ballot decryption key 62, the plurality of ballots 14, matching pairs 50, and ballot encryption key 54. Each ballot decryption key 62, matching pair 50 and ballot encryption key 54 set corresponds to a unique ballot ID 26 of the plurality of ballots 14.

As depicted in Figure 11, the counter key generator 74 is a public key-private key pair generator. The counter database encryptor 76 encrypts data prior to storing the data in the counter database 72. A preferred counter database encryptor 76 is an on the fly encryptor. The counter database encryptor 76 preferably uses public keys generated by a plurality of facilities of the election system 10 to encrypt the counter database 72.

As depicted in Figure 11, decryption of data within the counter database 72 by the counter database decryptor 80 may be necessary prior to one having the ability to access the data. A preferred counter database decryptor 80 is a partial decryptor.

As seen in Figures 5, 9 and 10, the election system 10 includes a matcher 82. As depicted in Figure 10, the matcher 82 of election system 10 includes a matcher link 84, a

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matcher database 86, a matcher key generator 90, a matcher database encryptor 92, and a matcher database decryptor 94. The matcher link 84 is for communication at least within the election system 10 and in particular with the plurality of voters 22.

The matcher database 86 has at least a matching pair 50 corresponding to each of the unique ballot IDs 26 of the plurality of ballots 14.

As depicted in Figure 10, the matcher key generator 90 is a public key-private key pair generator. The matcher database encryptor 92 encrypts data prior to storing the data in the matcher database 86. A preferred matcher database encryptor 92 is an on the fly encryptor. The matcher database encryptor 92 preferably uses public keys generated by a plurality of facilities of the election system 10 to encrypt the matcher database 86.

As depicted in Figure 10, decryption of data within the matcher database 86 by the matcher database decryptor 94 may be necessary prior to one having the ability to access the data. A preferred matcher database decryptor 94 is a partial decryptor.

As seen in Figures 5, 9 and 12, the election system 10 includes a distributor 96. As depicted in Figure 10, the distributor 96 of election system 10 includes a distributor link 100, a distributor database 102, a distributor key generator 104, a distributor database encryptor 106, and a distributor database decryptor 110. The distributor link 100 is for communication at least within the election system 10 and in particular with the plurality of voters 22. The distributor database 102 has at least the plurality of ballots 14.

As depicted in Figure 12, the distributor key generator 104 is a public key-private key pair generator. The distributor database encryptor 106 encrypts data prior to storing the data in the distributor database 102. A preferred distributor database encryptor 106 is an on the fly encryptor. The distributor database encryptor 106 preferably uses public keys generated by a plurality of facilities of the election system 10 to encrypt the distributor database 102.

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As depicted in Figure 12, decryption of data within the distributor database 102 by the distributor database decryptor 110 may be necessary prior to one having the ability to access the data. A preferred distributor database decryptor 110 is a partial decryptor.

As depicted in Figure 4, the plurality of ballots 14 includes the list of plain data 30 and an encrypted version 114 thereof.

The data reconciler 18 provides the authentication code 112. One alternative for the authentication code 112 is an encrypted version 114 of the list of plain data 30. The encrypted version 114 of the list of plain data 30 is provided to the distributor 96 for proving to the plurality of voters 22.

As depicted in Figure 4, the plurality of matching pairs 50 corresponds to an encrypted version 114 of the list of plain data 30. The data reconciler 18 provides the plurality of matching pairs 50. In particular, the plurality of matching pairs 50 is provided to the matcher 82 for distribution to the plurality of voters 22.

As seen in Figures 5 and 6, the election system 10 includes the registrar 12. As depicted in Figure 6, the registrar 12 of election system 10 includes a registrar link 20, a voter identifier 116, a registrar database 120, a registrar key generator 124, a registrar database encryptor 126, a voter ID generator 134, and a registrar database decryptor 130. The registrar link 20 is for communication at least within the election system 10 and in particular with the plurality of voters 22. A preferred registrar link 20 is bi-directional. To that end, the registrar link 20 may be an Internet link 132.

The voter identifier 116 is determining the identity of the plurality of voters 22 that have cast a vote. As depicted in Figure 6, the registrar database 120 includes voter information 122 such as voter names 128 and unique voter ID 24 of the plurality of voters 22.

As depicted in Figure 6, the registrar key generator 124 is a public key-private key pair generator. The registrar database encryptor 126 encrypts data prior to storing the data in the registrar database 120. A preferred registrar database encryptor 126 is an on the fly encryptor. The registrar database encryptor 126 preferably uses public keys

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generated by a plurality of facilities of the election system 10 to encrypt the registrar database 120.

As depicted in Figure 6, decryption of data within the registrar database 120 by the registrar database decryptor 130 may be necessary prior to one having the ability to access the data. A preferred registrar database decryptor 130 is a partial decryptor.

The unique voter ID 24 facilitates communication between a voter 28 of the plurality of voters 22 and the data reconciler 18. Also, the unique voter ID 24 facilitates communication between a voter 28 of the plurality of voters 22 and the registrar 12. Moreover, the unique voter ID 24 permits a voter 28 of the plurality of voters 22 to obtain a ballot of the plurality of ballots 14. Also, the unique voter ID 24 permits verifying that a voter 28 of the plurality of voters 22 has cast a ballot of the plurality of ballots 14.

As depicted in Figure 6, the unique voter ID generator 134 includes a counter 136 for determining the number of unique IDs generated. The registrar link 20 facilitates providing the unique voter ID 24 from the data reconciler 18 to a voter 28. Moreover, the registrar link 20 facilitates providing a voter private key 140 to a voter 28 of the plurality of voters 22. In a preferred embodiment, the registrar 12 passes the voter private key 140 to the voter 28 of the plurality of voters 22 without keeping a copy of the voter private key 140.

As seen in Figures 5 and 7, the election system 10 includes an authenticator 142. As depicted in Figure 7, the authenticator 142 of election system 10 includes an authenticator link 144, a voter authenticator 146, an authenticator database 150, a voter key generator 154, a voter authenticator key generator 156, an authenticator database encryptor 160, and an authenticator database decryptor 162. The authenticator link 144 is for communication at least within the election system 10 and in particular with at least the registrar 12. The authenticator database 150 includes a plurality of voter ID-decryption key pairs 152. Preferred voter ID-decryption key pairs 152 are voter ID-voter public key pairs.

The voter key generator 154 is a voter decryption key generator. A preferred voter key generator 154 is a voter public key-private key pair generator.

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As depicted in Figure 7, the authenticator key generator 156 is a public key-private key pair generator. The authenticator database encryptor 160 encrypts data prior to storing the data in the authenticator database 150. A preferred authenticator database encryptor 160 is an on the fly encryptor. The authenticator database encryptor 160 preferably uses public keys generated by a plurality of facilities of the election system 10 to encrypt the authenticator database 150.

As depicted in Figure 7, decryption of data within the authenticator database 150 by the authenticator database decryptor 162 may be necessary prior to one having the ability to access the data. A preferred authenticator database decryptor 162 is a partial decryptor.

As seen in Figures 5 and 8, the election system 10 includes a verifier 164. As depicted in Figure 8, the verifier 164 of election system 10 includes a verifier link 166, a vote counter 170, a verifier database 174, a verifier key generator 176, a verifier database encryptor 180, and a verifier database decryptor 182. The authenticator link 166 is for communication at least within the election system 10. The vote counter 170 counts cast ballots to verify a vote tally. A preferred vote counter 170 facilitates the independent counting of cast ballots to verify a vote tally. The vote counter 170 includes a ballot decryptor 172 for decrypting cast ballots to permit the vote counting of the vote tally.

The verifier database 174 includes a plurality of ballot ID-decryption key pairs 168. Preferred ballot ID-decryption key pairs 168 are ballot ID-voter public key pairs.

As depicted in Figure 8, the verifier key generator 176 is a public key-private key pair generator. The verifier database encryptor 180 encrypts data prior to storing the data in the verifier database 174. A preferred verifier database encryptor 180 is an on the fly encryptor. The verifier database encryptor 180 preferably uses public keys generated by a plurality of facilities of the election system 10 to encrypt the verifier database 174.

As depicted in Figure 8, decryption of data within the verifier database 174 by the a verifier database decryptor 182 may be necessary prior to one having the ability to access the data. A preferred a verifier database decryptor 182 is a partial decryptor.

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A data reconciler link 32 permits communication with a voter 28 of the plurality of voters 22. A preferred communication method with a voter 28 is via an Internet link 132. Alternatively, a communication with a voter 28 is via an Intranet link. Communication with a voter 28 may be direct; it may be indirect.--.

In the Drawings:

Please accept the enclosed proposed drawing changes that include changes in red. Accompanying the proposed changes are replacement drawings.

In the Claims:

Please amend Claims 10 (second occurrence) through 15 as follows:

11[10]. (Amended)An election apparatus as claimed in Claim 10 wherein at least two of the data handling devices communicate information to one another over the Internet.

12[11]. (Amended)An election apparatus as claimed in Claim 10 wherein the data handling device that distributes ballots distributes a number of ballots from an inventory of ballots that has more members than there are registered voters.

13[12]. (Amended)An election apparatus as claimed in Claim 10 wherein the data handling device that distributes ballots distributes a ballot having a ballot number, and a matching pair made up of plain-text versions of ballot choices and encrypted versions of ballot choices.

14[13]. (Amended)An election apparatus as claimed in Claim 13[12] wherein the encrypted version is encrypted using an encryption key unique to the ballot.

15[14]. (Amended)An election apparatus as claimed in Claim 13[12] wherein the ballot choices include ballot choices in municipal and national elections.

16[15]. (Amended)An election apparatus as claimed in Claim 10 wherein the authenticator is protected by a firewall.

Please add new claims 17-243 as follows:

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	Support from Application filed December 6, 2000
--17.(New Claim)An election apparatus as claimed in Claim 10 where any one of the registrar, the authenticator, the distributor, the counter, the matcher, and the verifier is protected by a firewall.--	p. 9, ll. 28-29; p. 12, ll. 23-29;
--18.(New Claim)An election system including: (a) a registrar including a registrar link for communication to at least permit a plurality of voters to obtain a unique voter ID; (b) a plurality of ballots for distribution to at least a portion of said plurality of voters, each ballot including a unique ballot ID and a list of plain data; and (c) a data reconciler including a data reconciler link for communication to at least said registrar.--	p. 12, l. 1; p. 35, l. 23 p. 13, ll. 1-9 p. 15, ll. 5-17 Figure 3 p. 18, l. 4- p. 19, l. 14
--19.(New Claim)The election system according to Claim 18 further including a tally system having a tally system link for communication to at least said data reconciler.--	p. 18, l. 4- p. 19, l. 14, Figure 3
--20.(New Claim)The election system according to Claim 19 further including a counter having a counter link for communication at least within said election system.--	p. 12, ll. 23-29 Figures 2 & 3
--21.(New Claim)The election system according to Claim 20 further including a ballot generator for generating said plurality of ballots.--	p. 15, ll. 5-9 Figure 2
--22.(New Claim)The election system according to Claim 21 wherein said ballot generator is secure ballot generator.--	p. 19, l. 16- p. 20, l. 2;

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	Support from Application filed December 6, 2000
--23.(New Claim)The election system according to Claim 22 further including a matching pair generator for generating a matching pair corresponding said unique ballot ID and said corresponding list of plain data for each of said plurality of ballots.--	p. 19, l. 16- p. 20, l. 2; Figure 2 & 4
--24.(New Claim)The election system according to Claim 22 further including a ballot encryption key generator for generating a plurality of ballot encryption keys corresponding to said plurality of ballots.--	p. 19, l. 16- p. 20, l. 2; Figure 2 & 4
--25.(New Claim)The election system according to Claim 24 wherein said ballot encryption key generator is a ballot encryption key-decryption key pair generator.--	p. 19, l. 16- p. 20, l. 2; Figure 2 & 4
--26.(New Claim)The election system according to Claim 24 further including a ballot encryptor for encrypting said corresponding list of plain data for each of said plurality of ballots using said corresponding plurality of ballot encryption keys.--	p. 19, l. 16- p. 20, l. 2; Figure 2 & 4
--27.(New Claim)The election system according to Claim 22 further including a ballot decryption key generator for generating a plurality of ballot decryption keys corresponding to said plurality of ballots to facilitate decryption thereof.--	p. 19, l. 16- p. 20, l. 2; Figure 2 & 4
--28.(New Claim)The election system according to Claim 20 further including a ballot authenticator for authenticating cast ballots.--	p. 25, ll. 9-12 Figure 3
--29.(New Claim)The election system according to Claim 28 further including a tallier for tallying cast ballots.--	p. 23, ll. 4-5 Figure 3
--30.(New Claim)The election system according to Claim 29 further including a decryptor for decrypting cast ballots prior to tallying cast ballots.--	p. 31, ll. 23-25; p. 33, l. 22; Figure 3

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	Support from Application filed December 6, 2000
--31.(New Claim)The election system according to Claim 20 further including a counter database having at least said unique ballot IDs of said plurality of ballots.--	p. 20, ll. 20-25; p. 9, ll. 18-19; p. 15, ll. 7-8; Figure 2
--32.(New Claim)The election system according to Claim 31 said counter database further including a decryption key corresponding to each of said unique ballot IDs of said plurality of ballots.--	p. 15, ll. 7-9 Figures 2 & 4
--33.(New Claim)The election system according to Claim 31 said counter database further including at least one of: (c) said plurality of ballots; (d) a matching pair corresponding to each of said unique ballot IDs; and (c) an encryption key corresponding to each of said unique ballot IDs.--	p. 20, ll. 20-25 p. 15, ll. 5-13; p. 15, ll. 5-13; Figure 2 p. 15, ll. 5-13;
--34.(New Claim)The election system according to Claim 20 further including a counter key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--35.(New Claim)The election system according to Claim 34 wherein said counter key generator is a public key-private key pair generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--36.(New Claim)The election system according to Claim 31 further including a counter database encryptor.--	p. 38, l. 2-3
--37.(New Claim)The election system according to Claim 36 wherein said counter database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16

Marked Up Version Showing Changes

	Support from Application filed December 6, 2000
--38.(New Claim)The election system according to Claim 36 wherein said counter database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said counter database.--	p. 38, ll. 15-16
--39.(New Claim)The election system according to Claim 36 further including a counter database decryptor.--	p. 38, ll. 15-21
--40.(New Claim)The election system according to Claim 39 wherein said counter database decryptor is a partial decryptor.--	p. 38, ll. 15-21
--41.(New Claim)The election system according to Claim 19 further including a matcher having a matcher link for communication at least within said election system.--	p. 12, ll. 23-29 Figure 3
--42.(New Claim)The election system according to Claim 41 wherein said matcher link is for communication with said plurality of voters.--	Figure 3
--43.(New Claim)The election system according to Claim 41 further including a matcher database having at least a matching pair corresponding to each of said unique ballot IDs of said plurality of ballots.--	p. 16, l. 12;
--44.(New Claim)The election system according to Claim 41 further including a matcher key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38 l. 2-3
--45.(New Claim)The election system according to Claim 44 wherein said matcher key generator is a public key-private key pair generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--46.(New Claim)The election system according to Claim 43 further including a matcher database encryptor.--	p. 38, l. 2-3
--47.(New Claim)The election system according to Claim 46 wherein said matcher database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16

Marked Up Version Showing Changes

	Support from Application filed December 6, 2000
--48.(New Claim)The election system according to Claim 46 wherein said matcher database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said matcher database.--	p. 38, ll. 15-16 Figure 1 & 2
--49.(New Claim)The election system according to Claim 46 further including a matcher database decryptor.--	p. 38, ll. 15-21
--50.(New Claim)The election system according to Claim 49 wherein said matcher database decryptor is a partial decryptor.--	p. 38, ll. 15-21
--51.(New Claim)The election system according to Claim 19 further including a distributor having a distributor link for communication at least within said election system.--	p. 12, ll. 23-29 Figure 3
--52.(New Claim)The election system according to Claim 51 wherein said distributor link is for communication with said plurality of voters.--	p. 16, ll. 7-9 Figure 3
--53.(New Claim)The election system according to Claim 52 further including a distributor database having at least said plurality of ballots.--	p. 20, ll. 20-25; p. 16, ll. 7-9 Figure 2
--54.(New Claim)The election system according to Claim 51 further including a distributor key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--55.(New Claim)The election system according to Claim 54 wherein said distributor key generator is a public key-private key pair generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--56.(New Claim)The election system according to Claim 53 further including a distributor database encryptor.--	p. 38, l. 2-3
--57.(New Claim)The election system according to Claim 56 wherein said distributor database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16

Marked Up Version Showing Changes

	Support from Application filed December 6, 2000
--58.(New Claim)The election system according to Claim 56 wherein said distributor database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said matcher database.--	p. 38, ll. 15-16
--59.(New Claim)The election system according to Claim 56 further including a distributor database decryptor.--	p. 38, ll. 15-21
--60.(New Claim)The election system according to Claim 59 wherein said distributor database decryptor is a partial decryptor.--	p. 38, ll. 15-21
--61.(New Claim)An election system including: (a) a registrar including a registrar link for communication to at least permit a plurality of voters to obtain a unique voter ID; (b) a plurality of ballots for distribution to at least a portion of said plurality of voters, each ballot including a unique ballot ID and a list of plain data; (c) a plurality of authentication codes, an authentication code for use with a cast ballot of said plurality of ballots; and (d) a data reconciler including a data reconciler link for communication to at least said registrar.--	p. 12, l. 1; p. 35, l. 23 p. 13, ll. 1-9 p. 15, ll. 5-17 p. 13, ll. 10-30 p. 18, l. 4- p. 19, l. 14 Figure 3
--62.(New Claim)The election system according to Claim 61 wherein said authentication code is provided by said data reconciler.--	p. 18, l. 4- p. 19, l. 14
--63.(New Claim)The election system according to Claim 61 said plurality of ballots further including an encrypted version of said list of plain data.--	p. 19, l. 16- p. 20, l. 2; Figure 3 &4

Marked Up Version Showing Changes

	Support from Application filed December 6, 2000
--64.(New Claim)The election system according to Claim 61 wherein said authentication code is an encrypted version of said list of plain data.--	p. 19, l. 16- p. 20, l. 2; Figure 3 &4
--65.(New Claim)The election system according to Claim 64 wherein said encrypted version of said list of plain data is provided to a distributor for proving to said plurality of voters.--	p. 31, ll. 21-28 p. 32, ll. 14-16; Figures 2 & 3
--66.(New Claim)The election system according to Claim 64 further including a plurality of matching pairs corresponding to an encrypted version of said list of plain data.--	p. 19, l. 16- p. 20, l. 2; Figure 2, 3 & 4
--67.(New Claim)The election system according to Claim 66 wherein said plurality of matching pairs is provided by said data reconciler.--	p. 19, l. 16- p. 20, l. 2; Figure 2, 3 & 4
--68.(New Claim)The election system according to Claim 67 wherein said plurality of matching pairs are provided to a matcher for distribution to said plurality of voters.--	p. 19, l. 16- p. 20, l. 2; Figure 2, 3 & 4
--69.(New Claim)The election system according to Claim 61 said registrar further including a voter identifier for determining the identity of said plurality of voters that have cast a vote.--	p. 13, ll. 5-30 Figure 1 & 3
--70.(New Claim)The election system according to Claim 61 said registrar further including a registrar database of said plurality of voters.--	p. 20, ll. 20-25;
--71.(New Claim)The election system according to Claim 70 wherein said registrar database includes voter information.--	p. 13, ll. 5-13
--72.(New Claim)The election system according to Claim 71 wherein said voter information includes voter names.--	p. 13, ll. 5-13
--73.(New Claim)The election system according to Claim 70 said registrar database further including unique voter IDs of said plurality of voters.--	p. 13, ll. 5-13

Marked Up Version Showing Changes

	Support from Application filed December 6, 2000
--74.(New Claim)The election system according to Claim 70 said registrar further including a registrar key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--75.(New Claim)The election system according to Claim 74 wherein said registrar key generator is a public key-private key pair generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--76.(New Claim)The election system according to Claim 70 further including a registrar database encryptor.--	p. 38, l. 2-3
--77.(New Claim)The election system according to Claim 76 wherein said registrar database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16
--78.(New Claim)The election system according to Claim 76 wherein said registrar database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said registrar database.--	p. 38, ll. 15-16
--79.(New Claim)The election system according to Claim 76 further including a registrar database decryptor.--	p. 38, ll. 15-21
--80.(New Claim)The election system according to Claim 79 wherein said registrar database decryptor is a partial decryptor.--	p. 38, ll. 15-21
--81.(New Claim)The election system according to Claim 61 wherein said unique voter ID facilitates communication between a voter of said plurality of voters and said data reconciler.--	p. 13, ll. 5-13; p. 16, ll. 5-15 Figure 1 & 3
--82.(New Claim)The election system according to Claim 61 wherein said unique voter ID facilitates communication between a voter of said plurality of voters and said registrar.--	p. 13, ll. 5-13; p. 16, ll. 5-15 Figure 1 & 3
--83.(New Claim)The election system according to Claim 61 wherein said unique voter ID permits a voter of said plurality of voters to obtain a ballot of said plurality of ballots.--	p. 13, ll. 5-13; p. 16, ll. 5-15 Figure 1 & 3

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--84.(New Claim)The election system according to Claim 61 wherein said unique voter ID permits verifying that a voter of said plurality of voters cast a ballot of said plurality of ballots.--	p. 13, ll. 5-13; p. 16, ll. 5-15 Figure 1 & 3
--85.(New Claim)The election system according to Claim 61 wherein said registrar link is bi-directional.--	p. 13, ll. 5-13; p. 16, ll. 5-15
--86.(New Claim)The election system according to Claim 61 wherein said registrar link is an Internet link.--	p. 39, l. 26- p. 40, l. 2
--87.(New Claim)The election system according to Claim 61 said registrar further including a unique voter ID generator.--	p. 13, ll. 7-8
--88.(New Claim)The election system according to Claim 87 said unique voter ID generator further including a counter for determining the number of unique IDs generated.--	p. 15, ll. 4
--89.(New Claim)The election system according to Claim 61 wherein said registrar link facilitates providing said unique voter ID from said data reconciler to a voter.--	p. 13, ll. 10-13
--90.(New Claim)The election system according to Claim 61 wherein said registrar link facilitates providing a voter private key to a voter of said plurality of voters.--	p. 13, ll. 10-13
--91.(New Claim)The election system according to Claim 90 wherein said registrar passes said voter private key to said voter of said plurality of voters without keeping a copy of said voter private key.--	p. 13, ll. 10-13 Figure 3
--92.(New Claim)The election system according to Claim 61 further including an authenticator including an authenticator link for communication to at least said registrar.--	p. 13, ll. 5-13
--93.(New Claim)The election system according to Claim 92 further including a voter authenticator.--	p. 13, ll. 5-13

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--94.(New Claim)The election system according to Claim 92 further including an authenticator database.--	p. 20, ll. 20-25;
--95.(New Claim)The election system according to Claim 92 wherein said authenticator database includes a plurality of voter ID-decryption key pairs.--	p. 13, ll. 5-13
--96.(New Claim)The election system according to Claim 95 wherein said plurality of voter ID-decryption key pairs is a plurality of voter ID-voter public key pairs.--	p. 13, ll. 5-13
--97.(New Claim)The election system according to Claim 92 further including a voter key generator.--	p. 13, ll. 5-13
--98.(New Claim)The election system according to Claim 97 wherein said voter key generator is a voter decryption key generator.--	p. 13, ll. 5-13
--99.(New Claim)The election system according to Claim 98 wherein said voter decryption key generator is a voter public key-private key pair generator.--	p. 13, ll. 5-13
--100.(New Claim)The election system according to Claim 92 said authenticator further including a authenticator key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--101.(New Claim)The election system according to Claim 100 wherein said authenticator key generator is a public key-private key pair generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--102.(New Claim)The election system according to Claim 94 further including a authenticator database encryptor.--	p. 38, l. 2-3
--103.(New Claim)The election system according to Claim 102 wherein said authenticator database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16

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--104.(New Claim)The election system according to Claim 102 wherein said authenticator database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said authenticator database.--	p. 38, ll. 15-16
--105.(New Claim)The election system according to Claim 102 further including a authenticator database decryptor.--	p. 38, ll. 15-21
--106.(New Claim)The election system according to Claim 105 wherein said authenticator database decryptor is a partial decryptor.--	p. 38, ll. 15-21
--107.(New Claim)The election system according to Claim 61 further including a verifier including a verifier link for communication at least within said election system.--	p. 19, ll. 1-11 Figure 3
--108.(New Claim)The election system according to Claim 107 further including a vote counter for counting cast ballots to verify a vote tally.--	p. 19, ll. 1-11 Figure 2 & 3
--109.(New Claim)The election system according to Claim 108 wherein said vote counter facilitates independently counting cast ballots to verify a vote tally.--	p. 18, ll. 14- p. 19, l. 14
--110.(New Claim)The election system according to Claim 108 further including a ballot decrytor for decrypting cast ballots to permit said vote counting of said vote tally.--	p. 18, ll. 14- p. 19, l. 14
--111.(New Claim)The election system according to Claim --107 further including a verifier database.--	p. 20, ll. 20-25;
--112.(New Claim)The election system according to Claim 111 wherein said verifier database includes a plurality of ballot ID-decryption key pairs.--	p. 18, ll. 14- p. 19, l. 14
--113.(New Claim)The election system according to Claim 112 wherein said plurality of ballot ID-decryption key pairs is a plurality of ballot ID-voter public key pairs.--	p. 18, ll. 14- p. 19, l. 14

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--114.(New Claim)The election system according to Claim 107 said verifier further including a verifier key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--115.(New Claim)The election system according to Claim 114 wherein said verifier key generator is a public key-private key pair generator.--	p. 38, l. 2-3
--116.(New Claim)The election system according to Claim 111 further including a verifier database encryptor.--	p. 38, ll. 15-16
--117.(New Claim)The election system according to Claim 116 wherein said verifier database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16
--118.(New Claim)The election system according to Claim 116 wherein said verifier database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said verifier database.--	p. 38, ll. 15-21
--119.(New Claim)The election system according to Claim 116 further including a verifier database decryptor.--	p. 38, ll. 15-21
--120.(New Claim)The election system according to Claim 119 wherein said verifier database decryptor is a partial decryptor.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--121.(New Claim)The election system according to Claim 61 wherein said data reconciler link permits communication with a voter of said plurality of voters.--	p. 22, ll. 2 –13 Figure 1 & 3
--122.(New Claim)The election system according to Claim 121 wherein said communication with a voter of said plurality of voters is via an Internet link.--	p. 22, ll. 2 -13

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--123.(New Claim)The election system according to Claim 121 wherein said communication with a voter of said plurality of voters is via an Intranet link.-- --	p. 22, ll. 2-13
--124.(New Claim)An election system including: (a) a registrar including a registrar link for communication to at least permit a plurality of voters to obtain a unique voter ID; (b) a plurality of ballots for distribution to at least a portion of said plurality of voters, each ballot including a unique ballot ID and a list of plain data; (c) a plurality of authentication codes, an authentication code for use with a cast ballot of said plurality of ballots; (d) a data reconciler including a data reconciler link for communication to at least said registrar; and (e) a tally system having a tally system link for communication to at least said data reconciler.--	p. 13, ll. 1-9 p. 15, ll. 5-17 p. 13, ll. 10-30 p. 18, l. 4- p. 19, l. 14 p. 13, ll. 1-9 p. 18, l. 4- p. 19, l. 14, Figure 3
--125.(New Claim)The election system according to Claim 124 further including a counter having a counter link for communication at least within said election system.--	p. 12, ll. 23-29 Figures 2 & 3
--126.(New Claim)The election system according to Claim 125 further including a ballot generator for generating said plurality of ballots.--	p. 15, ll. 5-9 Figure 2
--127.(New Claim)The election system according to Claim 126 wherein said ballot generator is secure ballot generator.--	p. 19, l. 16- p. 20, l. 2;

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--128.(New Claim)The election system according to Claim 127 further including a matching pair generator for generating a matching pair corresponding said unique ballot ID and said corresponding list of plain data for each of said plurality of ballots.--	p. 19, l. 16-p. 20, l. 2; Figure 2 & 4
--129.(New Claim)The election system according to Claim 127 further including a ballot encryption key generator for generating a plurality of ballot encryption keys corresponding to said plurality of ballots.--	p. 19, l. 16-p. 20, l. 2; Figure 2 & 4
--130.(New Claim)The election system according to Claim 129 wherein said ballot encryption key generator is a ballot encryption key-decryption key pair generator.--	p. 19, l. 16-p. 20, l. 2; Figure 2 & 4
--131.(New Claim)The election system according to Claim 129 further including a ballot encryptor for encrypting said corresponding list of plain data for each of said plurality of ballots using said corresponding plurality of ballot encryption keys.--	p. 19, l. 16-p. 20, l. 2; Figure 2 & 4
--132.(New Claim)The election system according to Claim 127 further including a ballot decryption key generator for generating a plurality of ballot decryption keys corresponding to said plurality of ballots to facilitate decryption thereof.--	p. 19, l. 16-p. 20, l. 2; Figure 2 & 4
--133.(New Claim)The election system according to Claim 125 further including a ballot authenticator for authenticating cast ballots.--	p. 25, ll. 9-12 Figure 3
--134.(New Claim)The election system according to Claim 133 further including a tallier for tallying cast ballots.--	p. 23, ll. 4-5 Figure 3
--135.(New Claim)The election system according to Claim 134 further including a decryptor for decrypting cast ballots prior to tallying cast ballots.--	p. 31, ll. 23-25; p. 33, l. 22; Figure 3

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--136.(New Claim)The election system according to Claim 125 further including a counter database having at least said unique ballot IDs of said plurality of ballots.--	p. 20, ll. 20-25; p. 9, ll. 18-19; p. 15, ll. 7-8; Figure 2
--137.(New Claim)The election system according to Claim 136 said counter database further including a decryption key corresponding to each of said unique ballot IDs of said plurality of ballots.--	p. 15, ll. 7-9 Figures 2 & 4
--138.(New Claim)The election system according to Claim 136 said counter database further including at least one of: (a) said plurality of ballots; (b) a matching pair corresponding to each of said unique ballot IDs; and (c) an encryption key corresponding to each of said unique ballot IDs.--	p. 20, ll. 20-25 p. 15, ll. 5-13; p. 15, ll. 5-13; Figure 2 p. 15, ll. 5-13;
--139.(New Claim)The election system according to Claim 125 further including a counter key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--140.(New Claim)The election system according to Claim 139 wherein said counter key generator is a public key-private key pair generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--141.(New Claim)The election system according to Claim 136 further including a counter database encryptor.--	p. 38, l. 2-3
--142.(New Claim)The election system according to Claim 141 wherein said counter database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16

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--143.(New Claim)The election system according to Claim 141 wherein said counter database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said counter database.--	p. 38, ll. 15-16
--144.(New Claim)The election system according to Claim 141 further including a counter database decryptor.--	p. 38, ll. 15-21
--145.(New Claim)The election system according to Claim 144 wherein said counter database decryptor is a partial decryptor.--	p. 38, ll. 15-21
--146.(New Claim)The election system according to Claim 124 further including a matcher having a matcher link for communication at least within said election system.--	p. 12, ll. 23-29 Figure 3
--147.(New Claim)The election system according to Claim 146 wherein said matcher link is for communication with said plurality of voters.--	Figure 3
--148.(New Claim)The election system according to Claim 146 further including a matcher database having at least a matching pair corresponding to each of said unique ballot IDs of said plurality of ballots.--	p. 16, l. 12;
--149.(New Claim)The election system according to Claim 146 further including a matcher key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38 l. 2-3
--150.(New Claim)The election system according to Claim 149 wherein said matcher key generator is a public key-private key pair generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--151.(New Claim)The election system according to Claim 148 further including a matcher database encryptor.--	p. 38, l. 2-3
--152.(New Claim)The election system according to Claim 151 wherein said c matcher database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16

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--153.(New Claim)The election system according to Claim 151 wherein said matcher database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said matcher database.--	p. 38, ll. 15-16 Figure 1 & 2
--154.(New Claim)The election system according to Claim 151 further including a matcher database decryptor.--	p. 38, ll. 15-21
--155.(New Claim)The election system according to Claim 154 wherein said matcher database decryptor is a partial decryptor.--	p. 38, ll. 15-21
--156.(New Claim)The election system according to Claim 124 further including a distributor having a distributor link for communication at least within said election system.--	p. 12, ll. 23-29 Figure 3
--157.(New Claim)The election system according to Claim 156 wherein said distributor link is for communication with said plurality of voters.--	p. 16, ll. 7-9 Figure 3
--158.(New Claim)The election system according to Claim 157 further including a distributor database having at least said plurality of ballots.--	p. 20, ll. 20-25; p. 16, ll. 7-9 Figure 2
--159.(New Claim)The election system according to Claim 156 further including a distributor key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--160.(New Claim)The election system according to Claim 159 wherein said distributor key generator is a public key-private key pair generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--161.(New Claim)The election system according to Claim 158 further including a distributor database encryptor.--	p. 38, l. 2-3
--162.(New Claim)The election system according to Claim 161 wherein said distributor database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16

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--163.(New Claim)The election system according to Claim 161 wherein said distributor database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said matcher database.--	p. 38, ll. 15-16
--164.(New Claim)The election system according to Claim 161 further including a distributor database decryptor.--	p. 38, ll. 15-21
--165.(New Claim)The election system according to Claim 164 wherein said distributor database decryptor is a partial decryptor.--	p. 38, ll. 15-21
--166.(New Claim)The election system according to Claim 124 wherein said authentication code is provided by said data reconciler.--	p. 18, l. 4- p. 19, l. 14
--167.(New Claim)The election system according to Claim 124 said plurality of ballots further including an encrypted version of said list of plain data.--	p. 19, l. 16- p. 20, l. 2; Figure 3 &4
--168.(New Claim)The election system according to Claim 124 wherein said authentication code is an encrypted version of said list of plain data.--	p. 19, l. 16- p. 20, l. 2; Figure 3 &4
--169.(New Claim)The election system according to Claim 168 wherein said encrypted version of said list of plain data is provided to a distributor for proving to said plurality of voters.--	p. 31, ll. 21-28 p. 32, ll. 14-16; Figures 2 & 3
--170.(New Claim)The election system according to Claim 168 further including a plurality of matching pairs corresponding to an encrypted version of said list of plain data.--	p. 19, l. 16- p. 20, l. 2; Figure 2, 3 & 4
--171.(New Claim)The election system according to Claim 170 wherein said plurality of matching pairs is provided by said data reconciler.--	p. 19, l. 16- p. 20, l. 2; Figure 2, 3 & 4

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--172.(New Claim)The election system according to Claim 171 wherein said plurality of matching pairs are provided to a matcher for distribution to said plurality of voters.--	p. 19, l. 16- p. 20, l. 2; Figure 2, 3 & 4
--173.(New Claim)The election system according to Claim 124 said registrar further including a voter identifier for determining the identity of said plurality of voters that have cast a vote.--	p. 13, ll. 5-30 Figure 1 & 3
--174.(New Claim)The election system according to Claim 124 said registrar further including a registrar database of said plurality of voters.--	p. 20, ll. 20-25;
--175.(New Claim)The election system according to Claim 174 wherein said registrar database includes voter information.--	p. 13, ll. 5-13
--176.(New Claim)The election system according to Claim 175 wherein said voter information includes voter names.--	p. 13, ll. 5-13
--177.(New Claim)The election system according to Claim 174 said registrar database further including unique voter IDs of said plurality of voters.--	p. 13, ll. 5-13
--178.(New Claim)The election system according to Claim 174 said registrar further including a registrar key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--179.(New Claim)The election system according to Claim 178 wherein said registrar key generator is a public key-private key pair generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--180.(New Claim)The election system according to Claim 174 further including a registrar database encryptor.--	p. 38, l. 2-3
--181.(New Claim)The election system according to Claim 180 wherein said registrar database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16

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--182.(New Claim)The election system according to Claim 180 wherein said registrar database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said registrar database.--	p. 38, ll. 15-16
--183.(New Claim)The election system according to Claim 180 further including a registrar database decryptor.--	p. 38, ll. 15-21
--184.(New Claim)The election system according to Claim 183 wherein said registrar database decryptor is a partial decryptor.--	p. 38, ll. 15-21
--185.(New Claim)The election system according to Claim 124 wherein said unique voter ID facilitates communication between a voter of said plurality of voters and said data reconciler.--	p. 13, ll. 5-13; p. 16, ll. 5-15 Figure 1 & 3
--186.(New Claim)The election system according to Claim 124 wherein said unique voter ID facilitates communication between a voter of said plurality of voters and said registrar.--	p. 13, ll. 5-13; p. 16, ll. 5-15 Figure 1 & 3
--187.(New Claim)The election system according to Claim 124 wherein said unique voter ID permits a voter of said plurality of voters to obtain a ballot of said plurality of ballots.--	p. 13, ll. 5-13; p. 16, ll. 5-15 Figure 1 & 3
--188.(New Claim)The election system according to Claim 124 wherein said unique voter ID permits verifying that a voter of said plurality of voters cast a ballot of said plurality of ballots.--	p. 13, ll. 5-13; p. 16, ll. 5-15 Figure 1 & 3
--189.(New Claim)The election system according to Claim 124 wherein said registrar link is bi-directional.--	p. 13, ll. 5-13; p. 16, ll. 5-15
--190.(New Claim)The election system according to Claim 124 wherein said registrar link is an Internet link.--	p. 39, l. 26- p. 40, l. 2
--191.(New Claim)The election system according to Claim 124 said registrar further including a unique voter ID generator.--	p. 13, ll. 7-8

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--192.(New Claim)The election system according to Claim 191 said unique voter ID generator further including a counter for determining the number of unique IDs generated.--	p. 15, ll. 4
--193.(New Claim)The election system according to Claim 124 wherein said registrar link facilitates providing said unique voter ID from said data reconciler to a voter.--	p. 13, ll. 10-13
--194.(New Claim)The election system according to Claim 124 wherein said registrar link facilitates providing a voter private key to a voter of said plurality of voters.--	p. 13, ll. 10-13
--195.(New Claim)The election system according to Claim 194 wherein said registrar passes said voter private key to said voter of said plurality of voters without keeping a copy of said voter private key.--	p. 13, ll. 10-13 Figure 3
--196.(New Claim)The election system according to Claim 124 further including an authenticator including an authenticator link for communication to at least said registrar.--	p. 13, ll. 5-13
--197.(New Claim)The election system according to Claim 196 further including a voter authenticator.--	p. 13, ll. 5-13
--198.(New Claim)The election system according to Claim 196 further including an authenticator database.--	p. 20, ll. 20-25;
--199.(New Claim)The election system according to Claim 196 wherein said authenticator database includes a plurality of voter ID-decryption key pairs.--	p. 13, ll. 5-13
--200.(New Claim)The election system according to Claim 199 wherein said plurality of voter ID-decryption key pairs is a plurality of voter ID-voter public key pairs.--	p. 13, ll. 5-13

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--201.(New Claim)The election system according to Claim 196 further including a voter key generator.--	p. 13, ll. 5-13
--202.(New Claim)The election system according to Claim 201 wherein said voter key generator is a voter decryption key generator.--	p. 13, ll. 5-13
--203.(New Claim)The election system according to Claim 202 wherein said voter decryption key generator is a voter public key-private key pair generator.--	p. 13, ll. 5-13
--204.(New Claim)The election system according to Claim 196 said authenticator further including a authenticator key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--205.(New Claim)The election system according to Claim 204 wherein said authenticator key generator is a public key-private key pair generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--206.(New Claim)The election system according to Claim 198 further including a authenticator database encryptor.--	p. 38, l. 2-3
--207.(New Claim)The election system according to Claim 206 wherein said authenticator database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16
--208.(New Claim)The election system according to Claim 206 wherein said authenticator database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said authenticator database.--	p. 38, ll. 15-16
--209.(New Claim)The election system according to Claim 206 further including a authenticator database decryptor.--	p. 38, ll. 15-21
--210.(New Claim)The election system according to Claim 209 wherein said authenticator database decryptor is a partial decryptor.--	p. 38, ll. 15-21

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--211.(New Claim)The election system according to Claim 124 further including a verifier including a verifier link for communication at least within said election system.--	p. 19, ll. 1-11 Figure 3
--212.(New Claim)The election system according to Claim 211 further including a vote counter for counting cast ballots to verify a vote tally.--	p. 19, ll. 1-11 Figure 2 & 3
--213.(New Claim)The election system according to Claim 212 wherein said vote counter facilitates independently counting cast ballots to verify a vote tally.--	p. 18, ll. 14- p. 19, l. 14
--214.(New Claim)The election system according to Claim 212 further including a ballot decrytor for decrypting cast ballots to permit said vote counting of said vote tally.--	p. 18, ll. 14- p. 19, l. 14
--215.(New Claim)The election system according to Claim 211 further including a verifier database.--	p. 20, ll. 20-25;
--216.(New Claim)The election system according to Claim 215 wherein said verifier database includes a plurality of ballot ID-decryption key pairs.--	p. 18, ll. 14- p. 19, l. 14
--217.(New Claim)The election system according to Claim 216 wherein said plurality of ballot ID-decryption key pairs is a plurality of ballot ID-voter public key pairs.--	p. 18, ll. 14- p. 19, l. 14
--218.(New Claim)The election system according to Claim 211 said verifier further including a verifier key generator.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--219.(New Claim)The election system according to Claim 218 wherein said verifier key generator is a public key-private key pair generator.--	p. 38, l. 2-3
--220.(New Claim)The election system according to Claim 215 further including a verifier database encryptor.--	p. 38, ll. 15-16

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--221.(New Claim)The election system according to Claim 220 wherein said verifier database encryptor is an on the fly encryptor.--	p. 38, ll. 15-16
--222.(New Claim)The election system according to Claim 220 wherein said verifier database encryptor uses public keys generated by a plurality of facilities of said election system to encrypt said verifier database.--	p. 38, ll. 15-21
--223.(New Claim)The election system according to Claim 220 further including a verifier database decryptor.--	p. 38, ll. 15-21
--224.(New Claim)The election system according to Claim 223 wherein said verifier database decryptor is a partial decryptor.--	p. 20, l. 5- p. 21, l. 3; p. 38, l. 2-3
--225.(New Claim)The election system according to Claim 124 wherein said data reconciler link permits communication with a voter of said plurality of voters.--	p. 22, ll. 2 –13 Figure 1 & 3
--226.(New Claim)The election system according to Claim 225 wherein said communication with a voter of said plurality of voters is via an Internet link.--	p. 22, ll. 2 -13
--227.(New Claim)The election system according to Claim 225 wherein said communication with a voter of said plurality of voters is via an Intranet link.--	p. 22, ll. 2-13
--228.(New Claim)The election system according to Claim 225 wherein said communication with a voter of said plurality of voters is direct.--	p. 18, l. 4- p. 19, l. 14
--229.(New Claim)The election system according to Claim 225 wherein said communication with a voter of said plurality of voters is indirect.--	p. 19, l. 16- p. 20, l. 2; Figure 3 &4

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--230.(New Claim)The election system according to Claim 121 wherein said communication with a voter of said plurality of voters is direct.--	p. 19, l. 16- p. 20, l. 2; Figure 3 &4
--231.(New Claim)The election system according to Claim 121 wherein said communication with a voter of said plurality of voters is indirect.--	p. 31, ll. 21-28 p. 32, ll. 14-16; Figures 2 & 3
--232.(New Claim)An election method including: (a) registering a plurality of voters by providing each a unique voter ID; (b) distributing to at least a portion of said plurality of voters a ballot including a unique ballot ID and a list of plain data; and (c) reconciling a cast ballot of said plurality of ballots.--	p. 12, l. 1; p. 35, l. 23 p. 13, ll. 1-9 p. 15, ll. 5-17 Figure 3 p. 18, l. 4- p. 19, l. 14
--233.(New Claim)An election method including: (a) registering a plurality of voters by providing each a unique voter ID; (b) distributing to at least a portion of said plurality of voters a ballot including a unique ballot ID and a list of plain data; (c) authenticating a cast ballot of said plurality of ballots; and (d) reconciling said cast ballot.--	p. 13, ll. 1-9 p. 15, ll. 5-17 p. 13, ll. 10-30 p. 18, l. 4- p. 19, l. 14 p. 13, ll. 1-9

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--234.(New Claim)An election system including:	p. 13, ll. 1-9
(a) registering a plurality of voters by providing each a unique voter ID;	p. 15, ll. 5-17
(b) distributing to at least a portion of said plurality of voters a ballot including a unique ballot ID and a list of plain data;	p. 13, ll. 10-30
(c) authenticating cast ballots;	p. 18, l. 4- p. 19, l. 14
(d) reconciling said authenticated cast ballots; and	p. 13, ll. 1-9 p. 18, l. 4-
(e) tallying said authenticated cast ballots.--	p. 19, l. 14, Figure 3

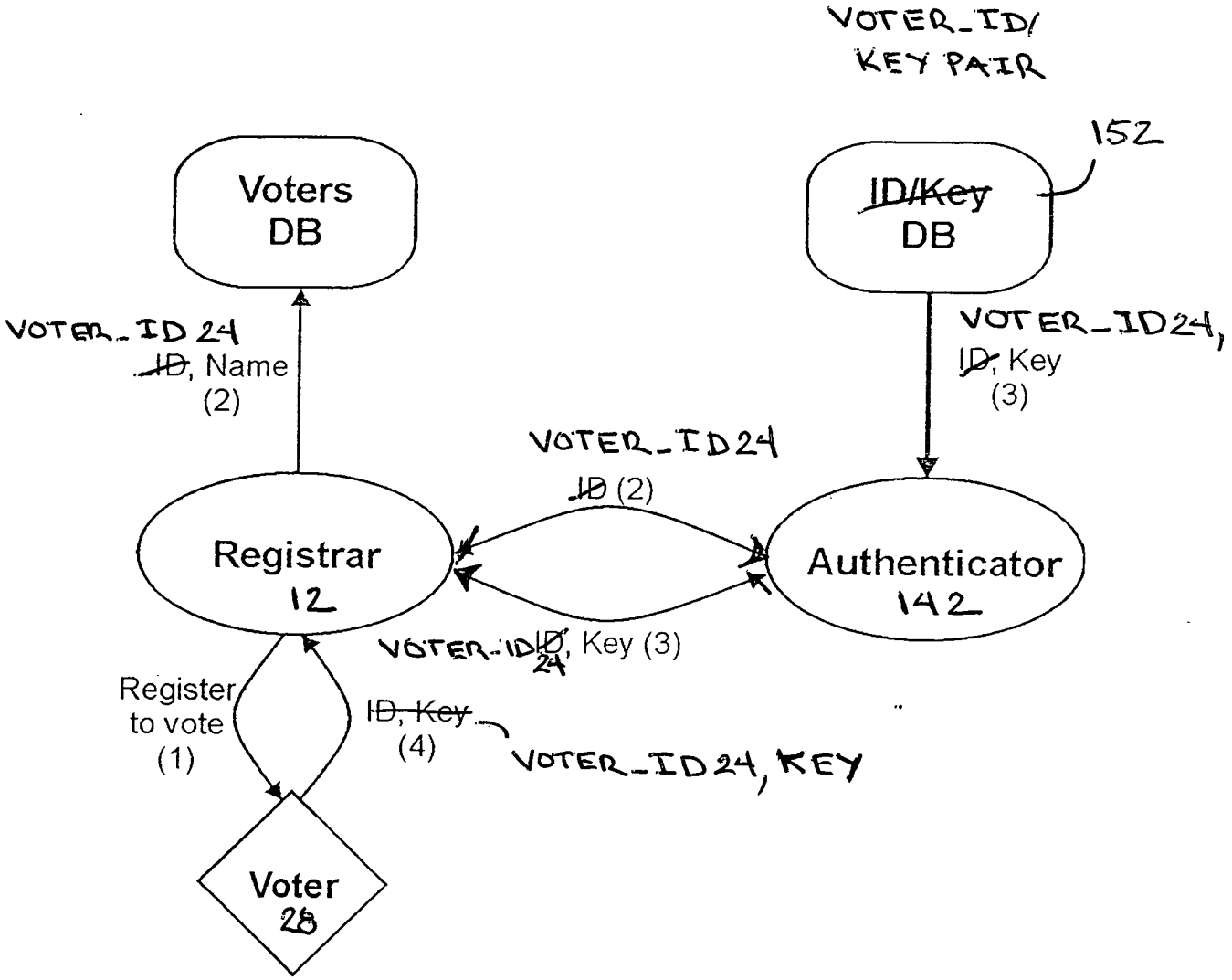
VOTER_ID/
KEY PAIR
152
Voters
DB
~~ID/Key~~
DB
VOTER_ID24
~~ID~~, Name
(2)
VOTER_ID24,
~~ID~~, Key
(3)
VOTER_ID24
~~ID~~ (2)
Registrar
12
Authenticator
142
VOTER_ID~~ID~~, Key (3)
24
Register
to vote
(1)
~~ID, Key~~
(4)
VOTER_ID24, KEY
Voter
~~28~~

FIG. 1

REGISTRATION PHASE

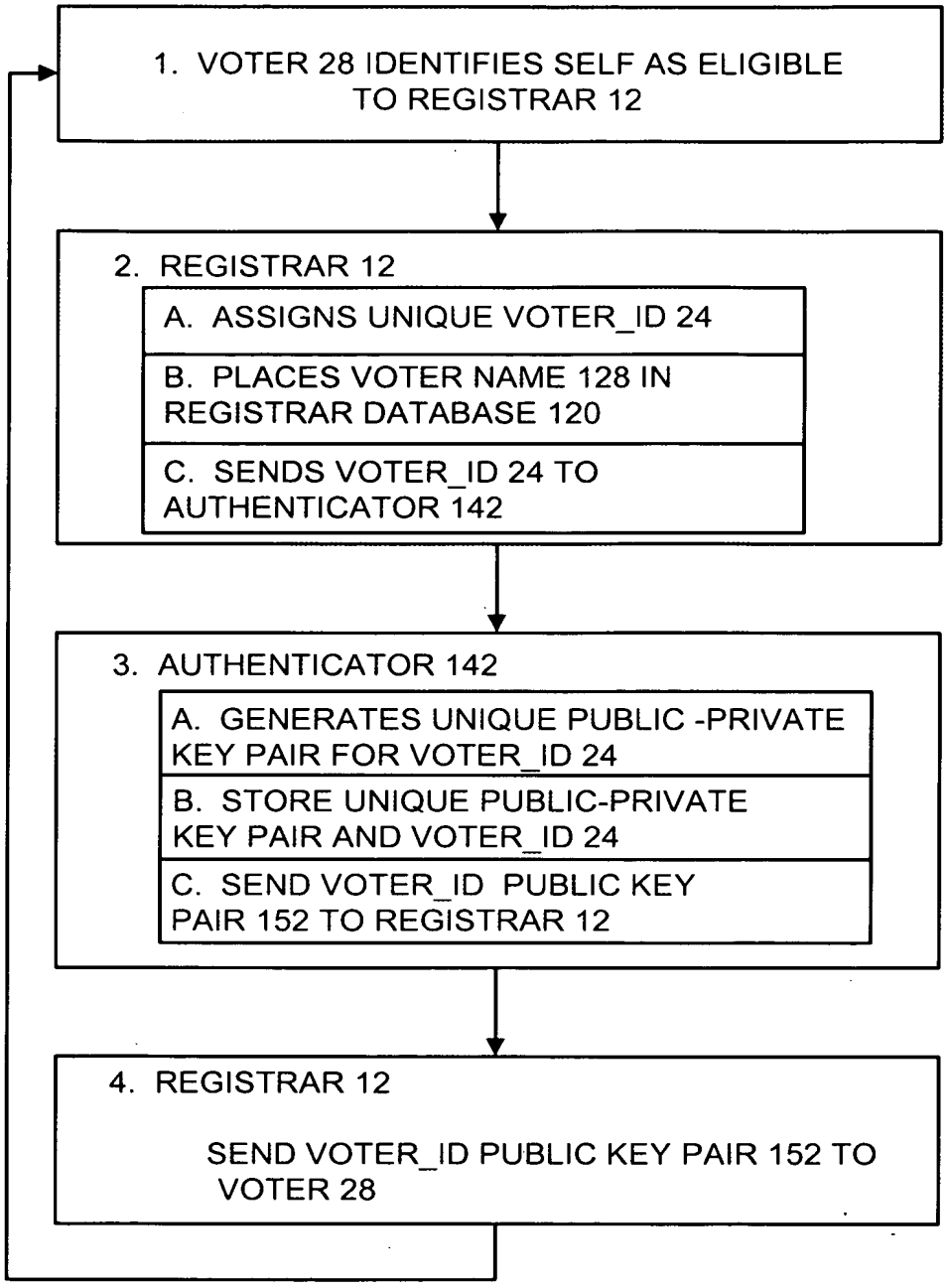

FIG. 1A

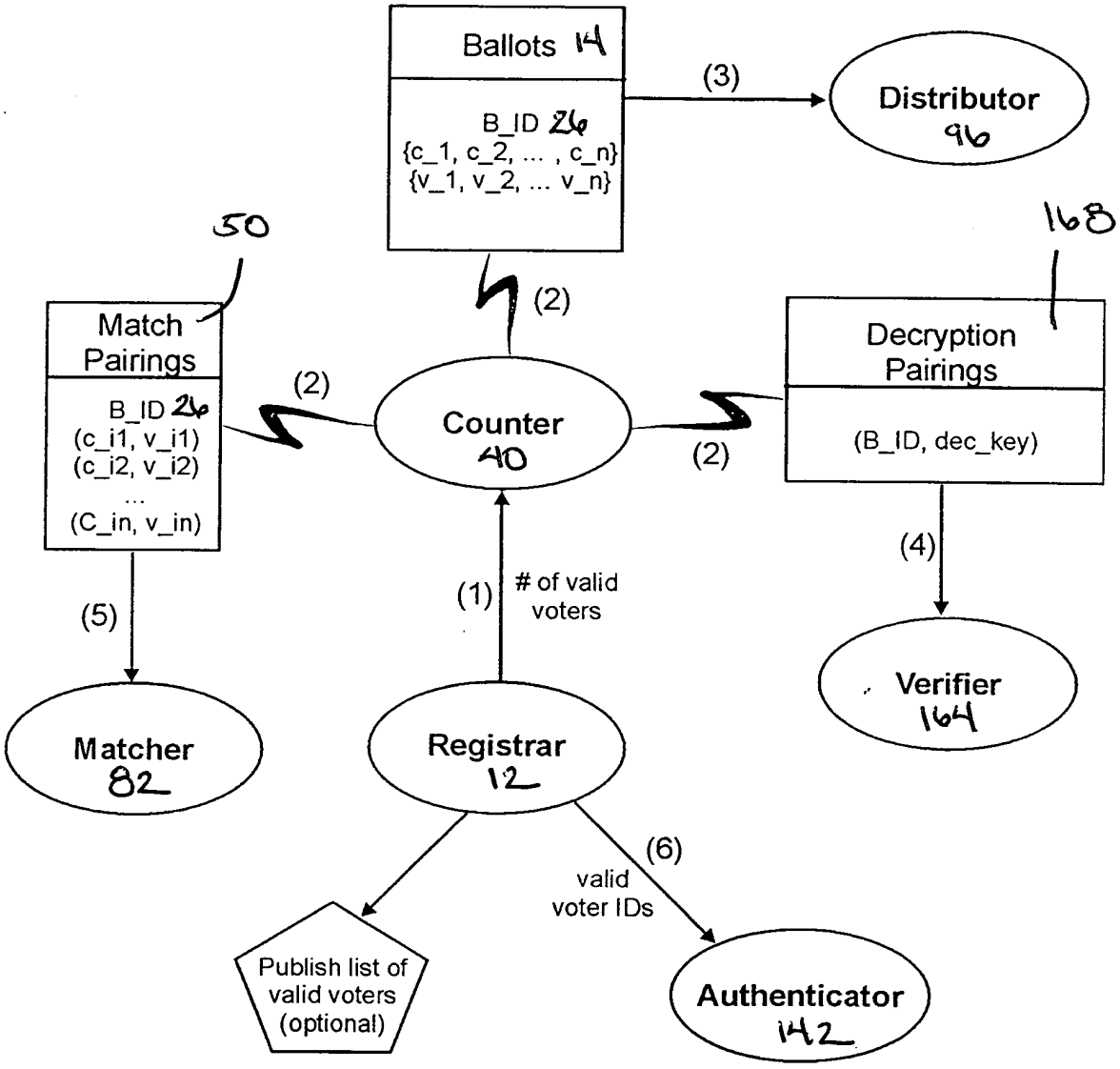
Ballots 14
B_ID 26
{c_1, c_2, ... , c_n}
{v_1, v_2, ... v_n}
(3)
Distributor 96
50
168
Match Pairings
B_ID 26
(c_i1, v_i1)
(c_i2, v_i2)
...
(C_in, v_in)
(2)
(2)
Counter 40
(2)
Decryption Pairings
(B_ID, dec_key)
(4)
(5)
(1)
# of valid voters
Verifier 164
Matcher 82
Registrar 12
(6)
valid voter IDs
Publish list of valid voters (optional)
Authenticator 142

FIG. 2

PRE-VOTING PHASE

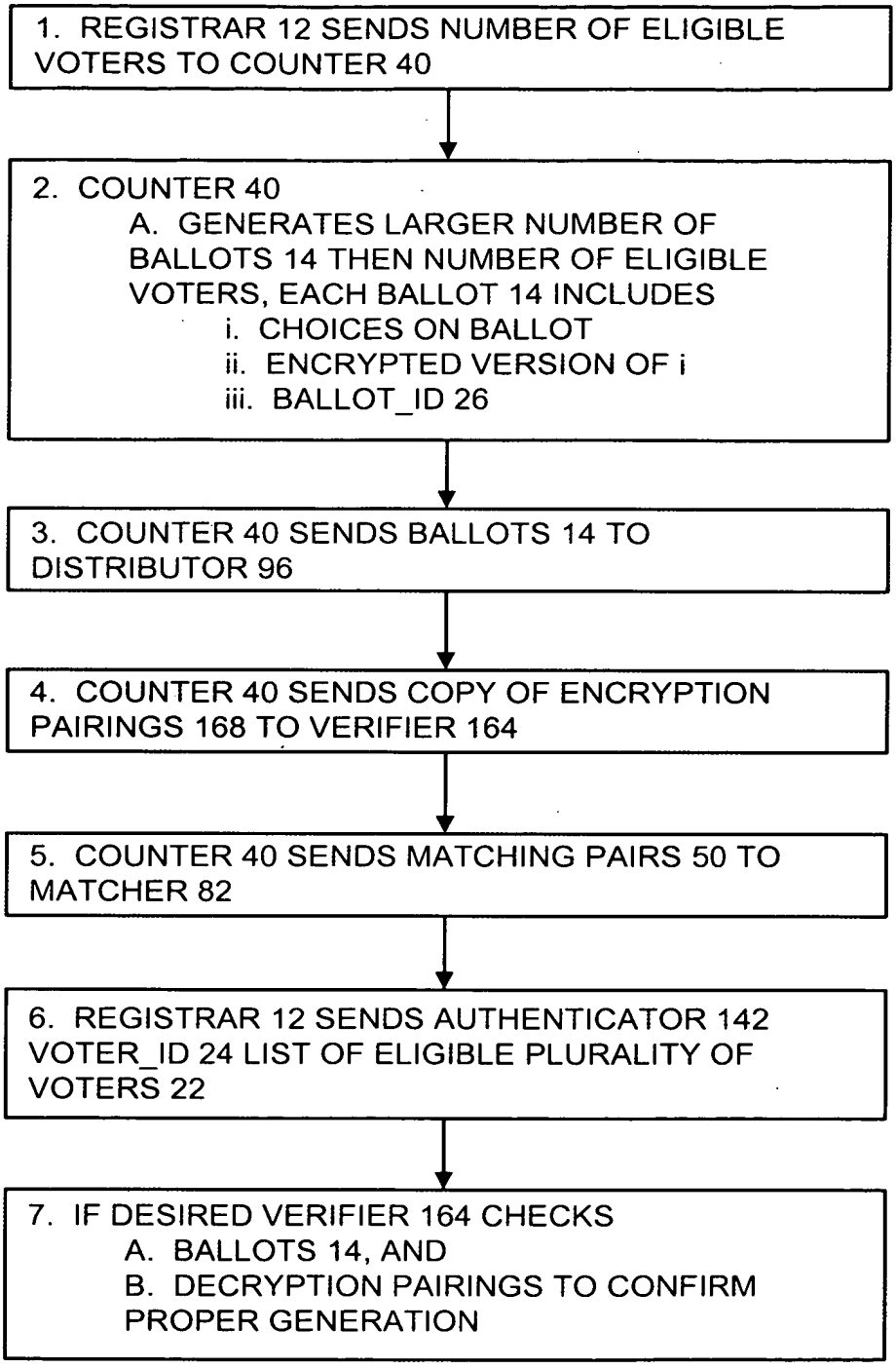

FIG. 2A

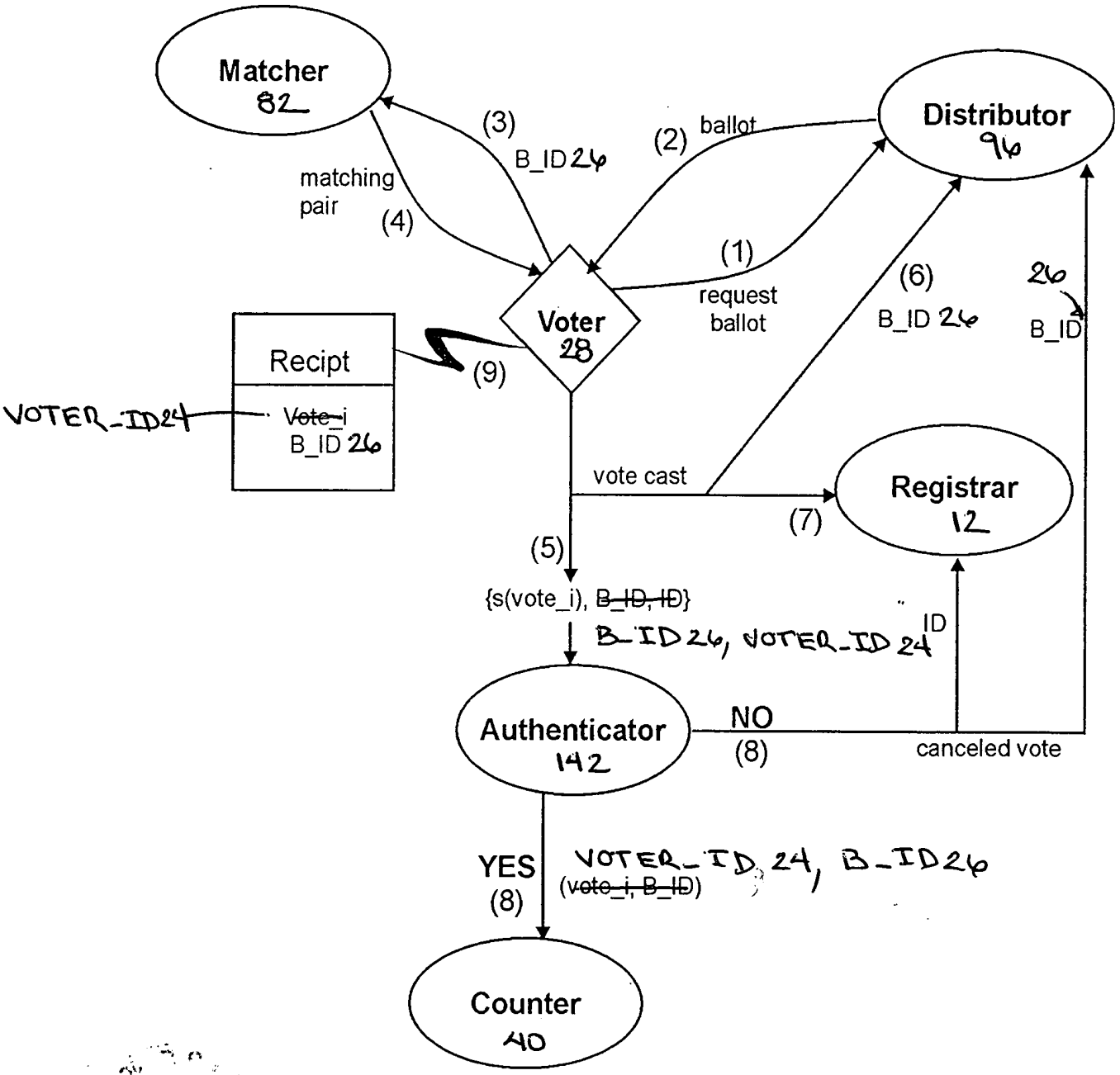
Matcher
82
Distributor
96
(3)
B_ID 24
(2) ballot
matching
pair
(4)
(1)
request
ballot
Voter
28
(6)
B_ID 26
26
B_ID
Recipt
(9)
VOTER_ID24
Vote_i
B_ID 26
vote cast
Registrar
12
(7)
(5)
{s(vote_i), B_ID, ID}
B_ID 26, VOTER_ID 24
ID
Authenticator
142
NO
(8)
canceled vote
YES
(8)
VOTER_ID 24, B_ID 26
(vote_i, B_ID)
Counter
40

FIG. 3

VOTING PHASE

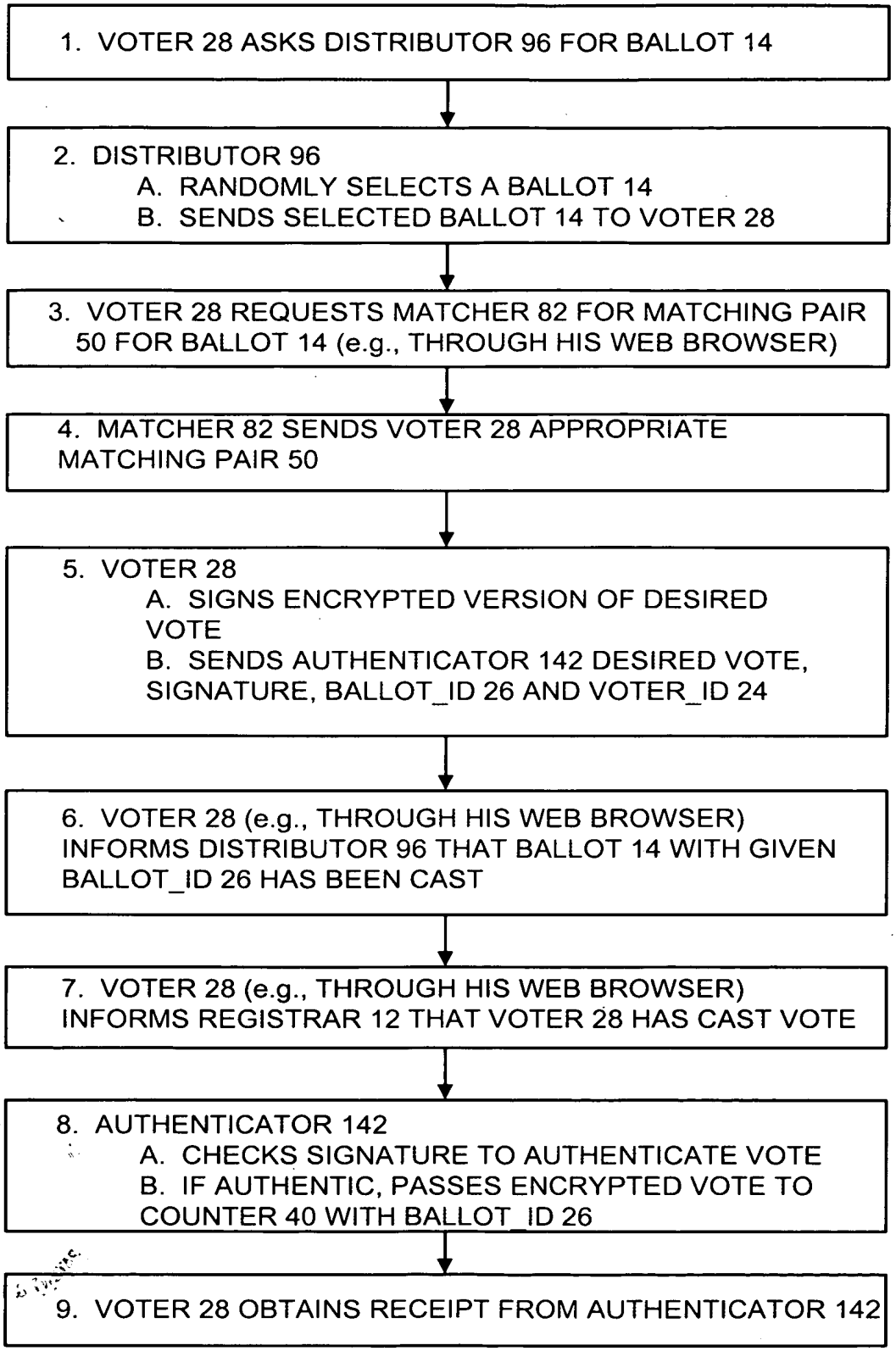

FIG. 3A

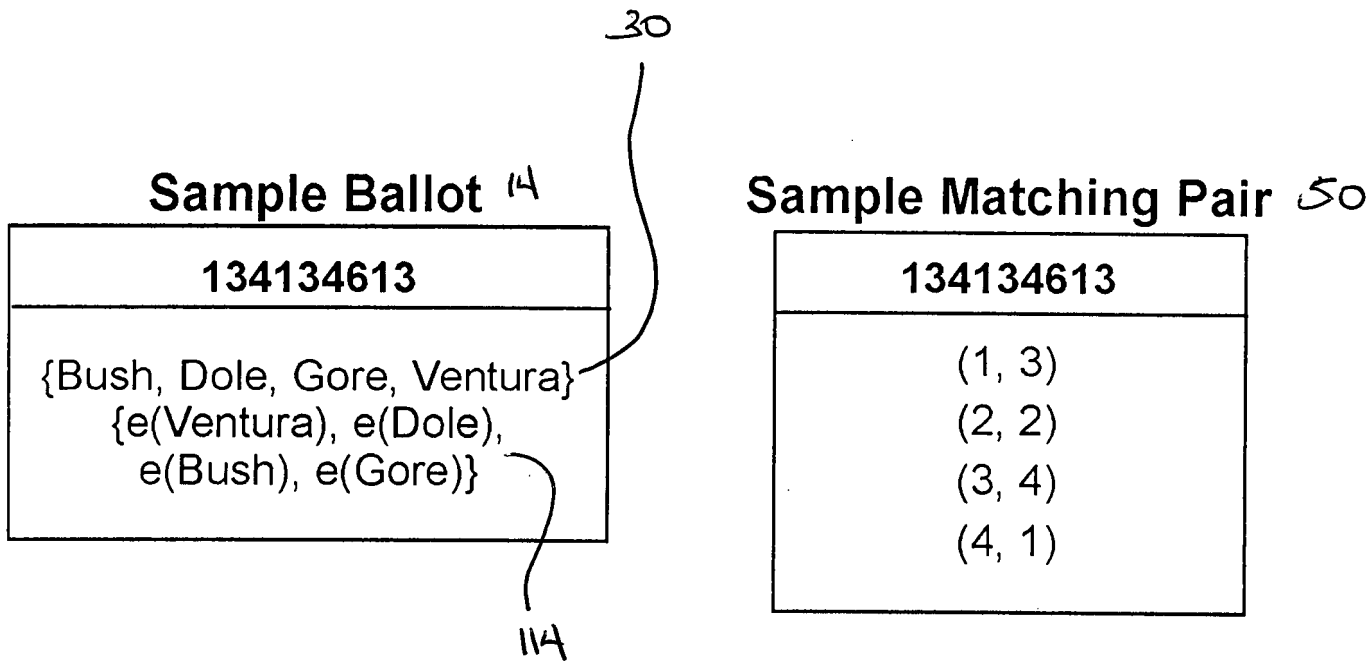
30
Sample Ballot 14
134134613
{Bush, Dole, Gore, Ventura}
{e(Ventura), e(Dole),
e(Bush), e(Gore)}
114
Sample Matching Pair 50
134134613
(1, 3)
(2, 2)
(3, 4)
(4, 1)

FIG. 4

ANNOUNCEMENT PHASE

1. COUNTER 40
   A. DECRYPTS RECEIVED VOTES
   B. TALLIES VOTES

2. AUTHENTICATOR 142 PUBLISHES LIST #1 OF
   i. ENCRYPTED BALLOTS, AND
   ii. BALLOT IDS

3. COUNTER 40
   A. PUBLISHES LIST #2 CONTAINING ITS VERSION OF
      i. ENCRYPTED BALLOTS, AND
      ii. BALLOT IDS
   B. LIST #1 AND LIST #2 SHOULD BE IDENTICAL

4. AUTHENTICATOR 142 PUBLISHES LIST #3 OF ALL VOTER_IDS 24 THAT CAST BALLOTS 14

5. REGISTRAR 12 LOOKS AT LIST #1 TO VERIFY THAT ONLY ELIGIBLE VOTERS 38 VOTED

6. VERIFIER 164 CONFIRMS THAT LIST #1 AND LIST #2 ARE IDENTICAL

7. VERIFIER 164 USES LIST #1 AND THE DECRYPTION PAIRS 168 TO CONFIRM RESULTS OF COUNTER 40

8. VOTERS 22 CAN LOOK AT LIST#1 AND LIST #2 TO SEE THEIR VOTES ON THESE LISTS

9. DISTRIBUTOR 96
   A. LOOKS AT LIST #1 AND LIST #2 TO ENSURE ONLY ELIGIBLE BALLOTS
   B. REMOVE INELIGIBLE BALLOTS
   C. OPTIONALLY, RELEASE LIST OF BALLOT_IDS 26

10. COUNTER 40 ANNOUNCES ELECTION RESULTS WHICH MAY BE OPTIONALLY VERIFIED BY VERIFIER 164

FIG. 4A

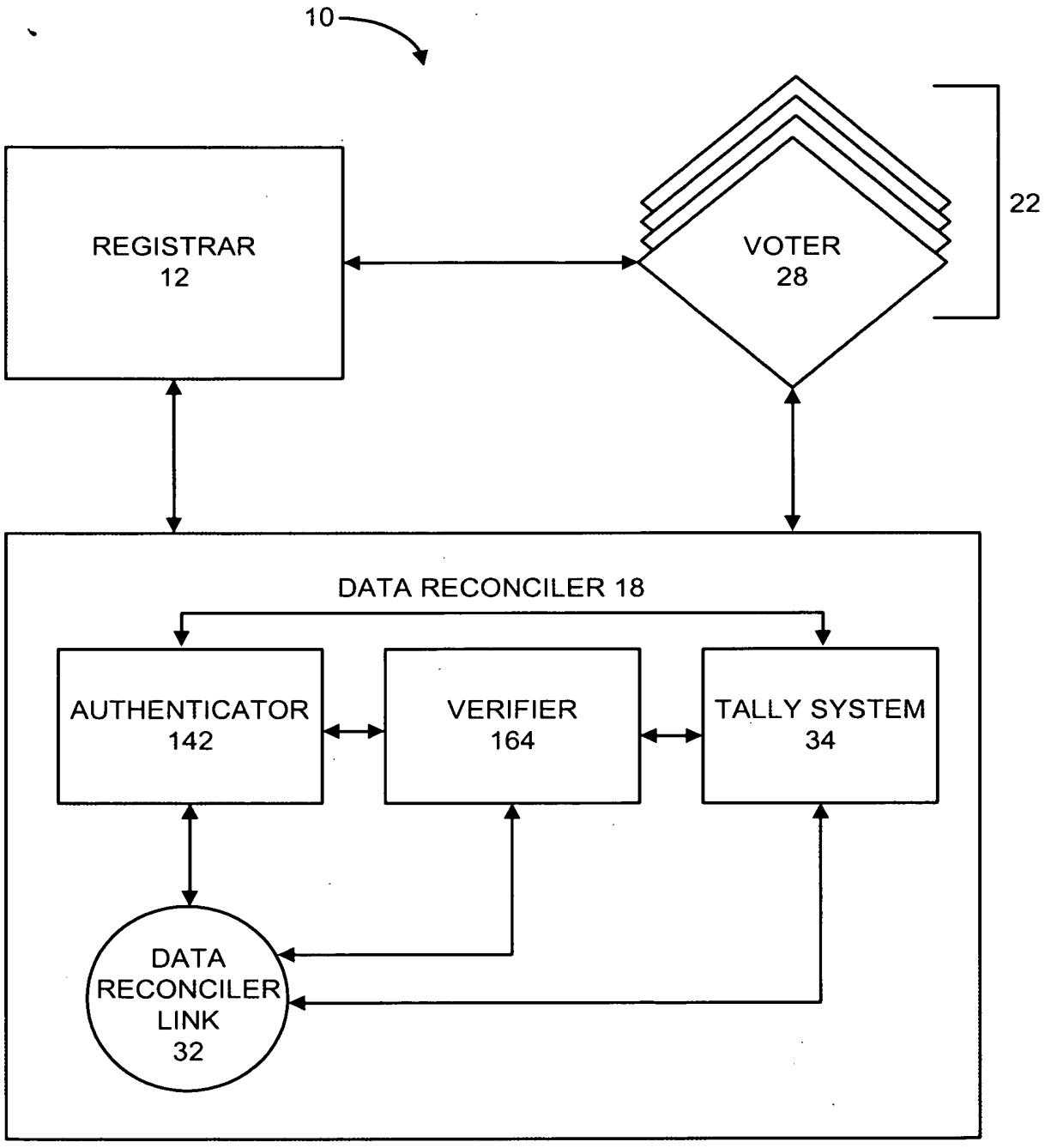
10
REGISTRAR
12
VOTER
28
22
DATA RECONCILER 18
AUTHENTICATOR
142
VERIFIER
164
TALLY SYSTEM
34
DATA
RECONCILER
LINK
32

FIG. 5

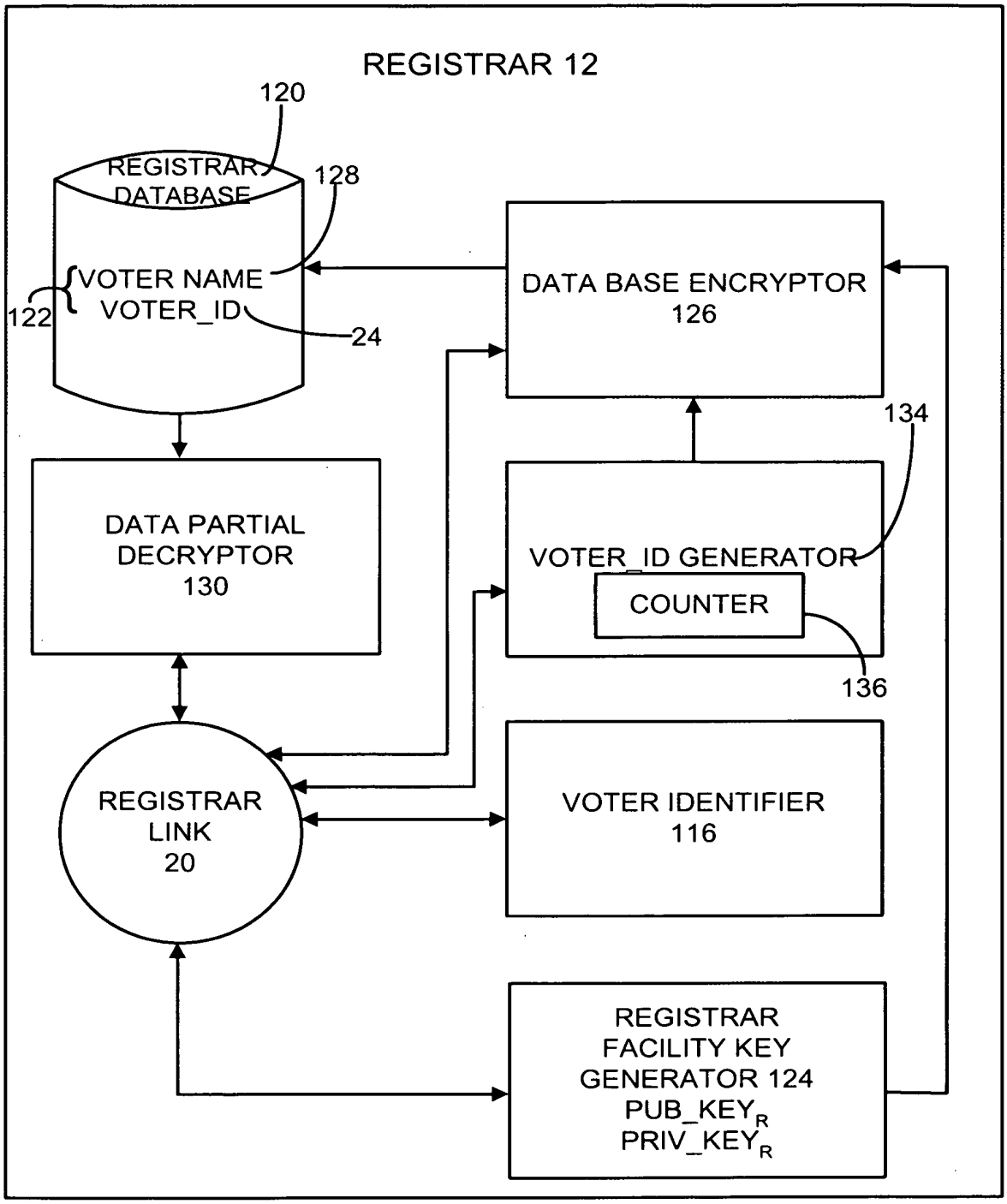
REGISTRAR 12
120
REGISTRAR DATABASE
128
VOTER NAME
VOTER_ID
122
24
DATA BASE ENCRYPTOR 126
134
DATA PARTIAL DECRYPTOR 130
VOTER_ID GENERATOR
COUNTER
136
REGISTRAR LINK 20
VOTER IDENTIFIER 116
REGISTRAR FACILITY KEY GENERATOR 124
PUB_KEY$_R$
PRIV_KEY$_R$

FIG. 6

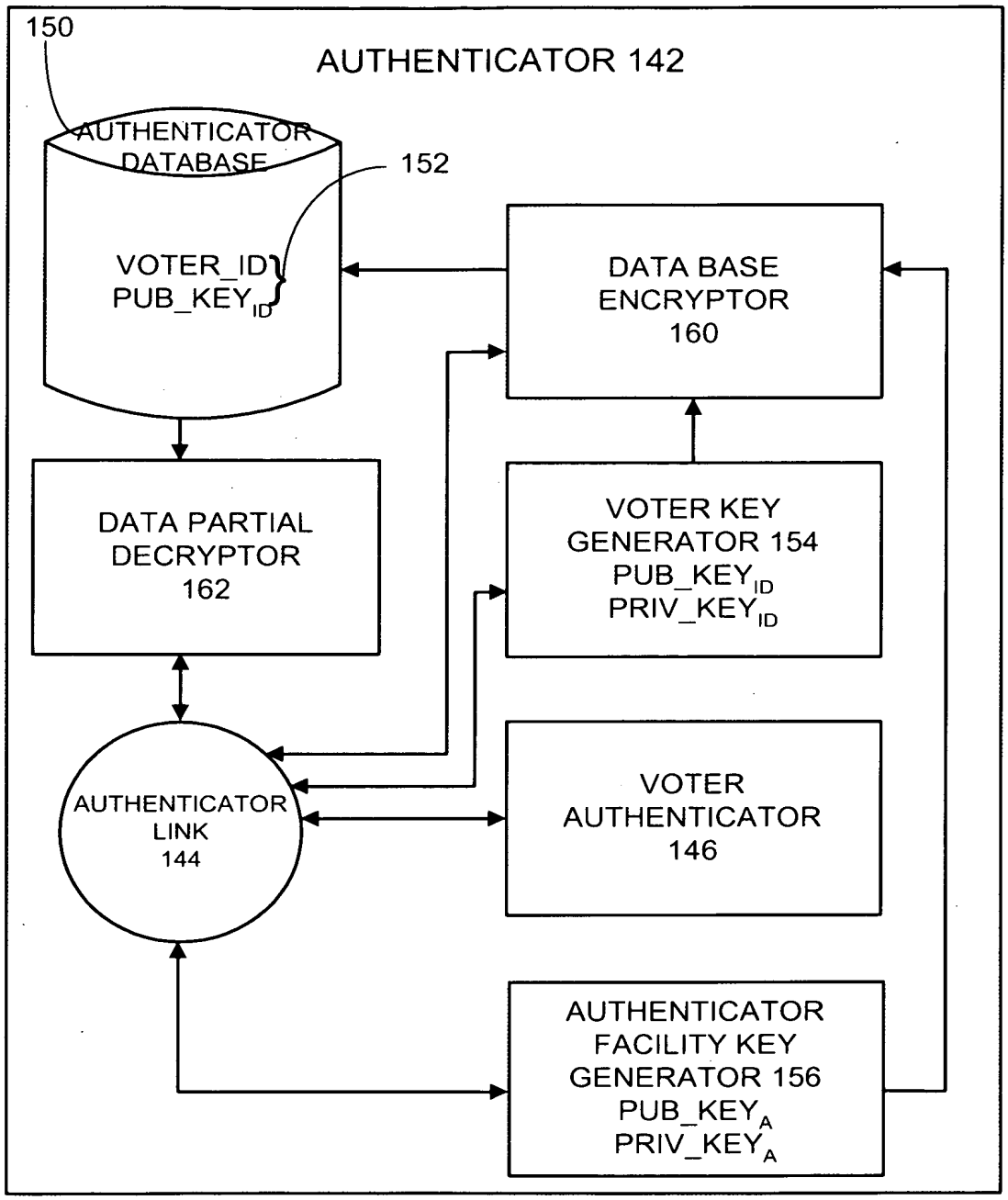
150
AUTHENTICATOR 142
AUTHENTICATOR DATABASE
152
VOTER_ID
PUB_KEY_ID
DATA BASE ENCRYPTOR 160
DATA PARTIAL DECRYPTOR 162
VOTER KEY GENERATOR 154
PUB_KEY_ID
PRIV_KEY_ID
AUTHENTICATOR LINK 144
VOTER AUTHENTICATOR 146
AUTHENTICATOR FACILITY KEY GENERATOR 156
PUB_KEY_A
PRIV_KEY_A

FIG. 7

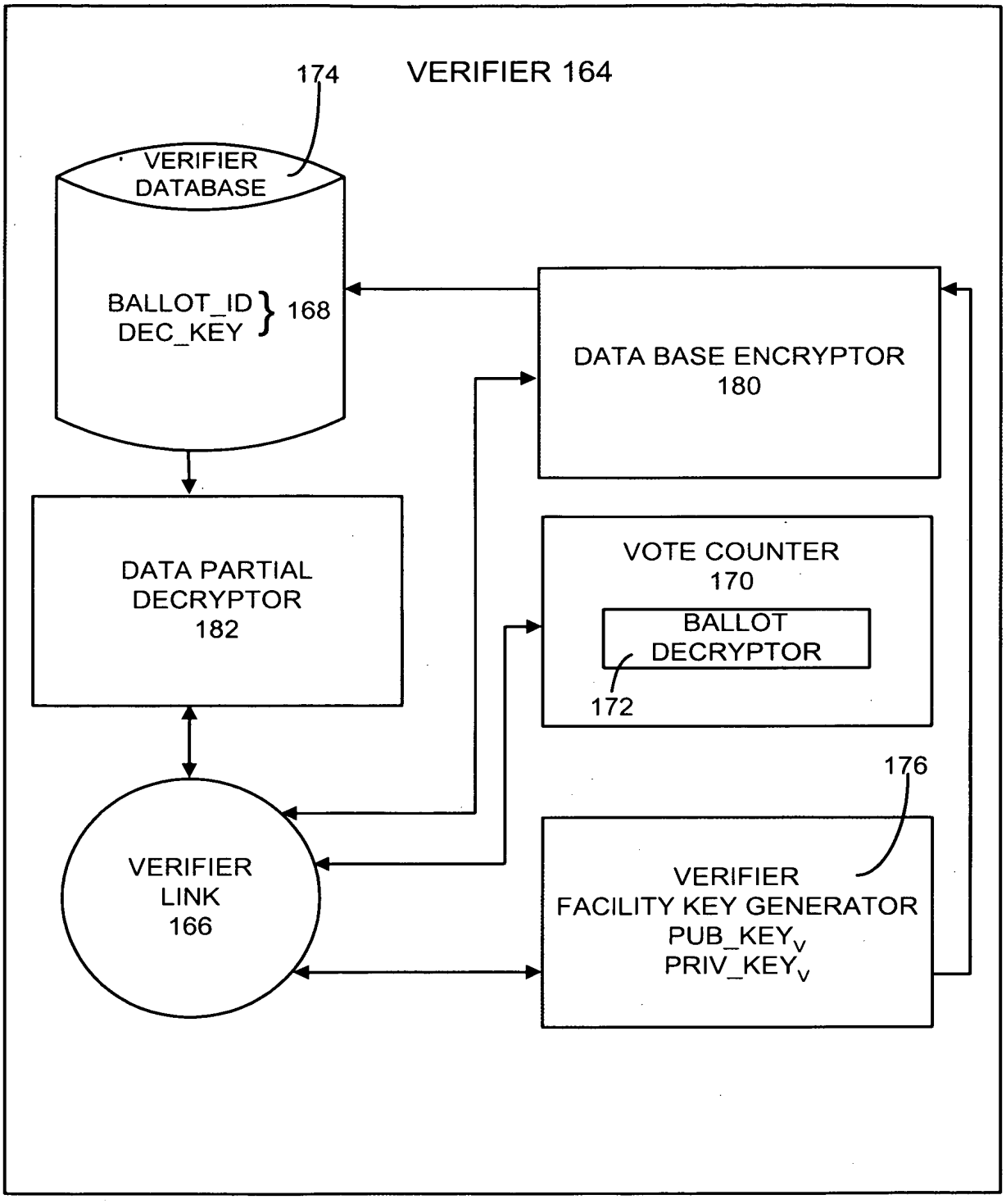
VERIFIER 164
174
VERIFIER DATABASE
BALLOT_ID
DEC_KEY
168
DATA BASE ENCRYPTOR 180
DATA PARTIAL DECRYPTOR 182
VOTE COUNTER 170
BALLOT DECRYPTOR
172
176
VERIFIER LINK 166
VERIFIER FACILITY KEY GENERATOR
PUB_KEY$_V$
PRIV_KEY$_V$

FIG. 8

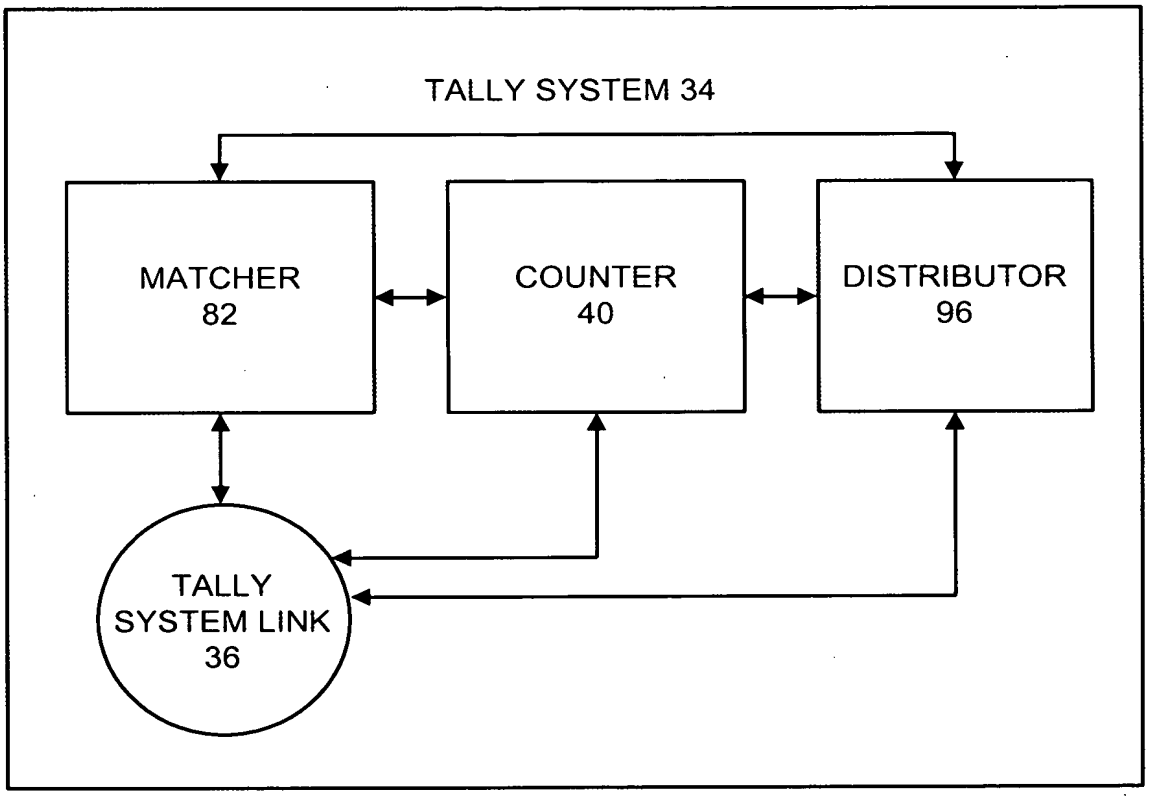
TALLY SYSTEM 34
MATCHER
82
COUNTER
40
DISTRIBUTOR
96
TALLY
SYSTEM LINK
36

FIG. 9

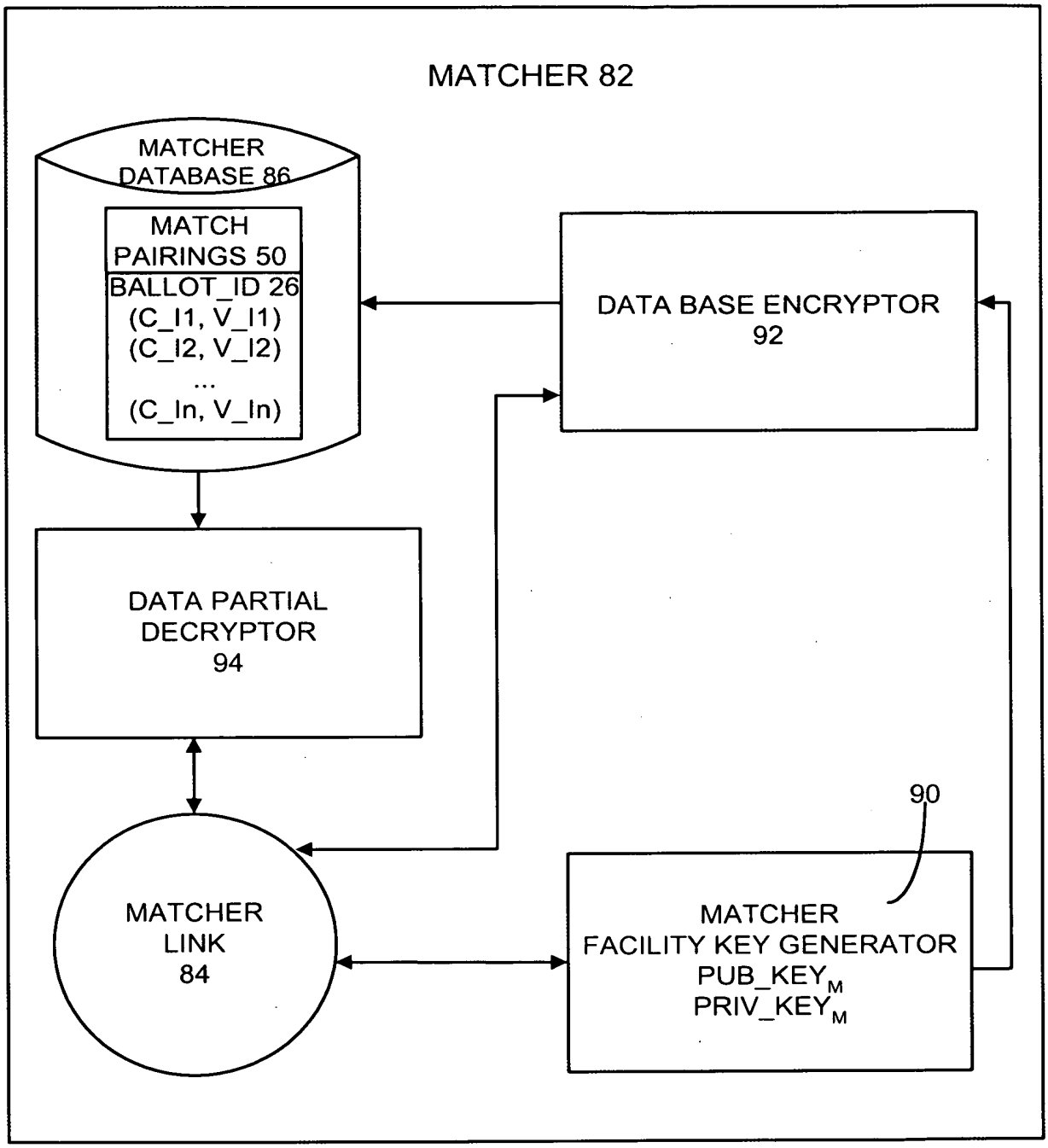
MATCHER 82
MATCHER DATABASE 86
MATCH PAIRINGS 50
BALLOT_ID 26
(C_I1, V_I1)
(C_I2, V_I2)
...
(C_In, V_In)
DATA BASE ENCRYPTOR 92
DATA PARTIAL DECRYPTOR 94
MATCHER LINK 84
90
MATCHER FACILITY KEY GENERATOR
PUB_KEY_M
PRIV_KEY_M

FIG. 10

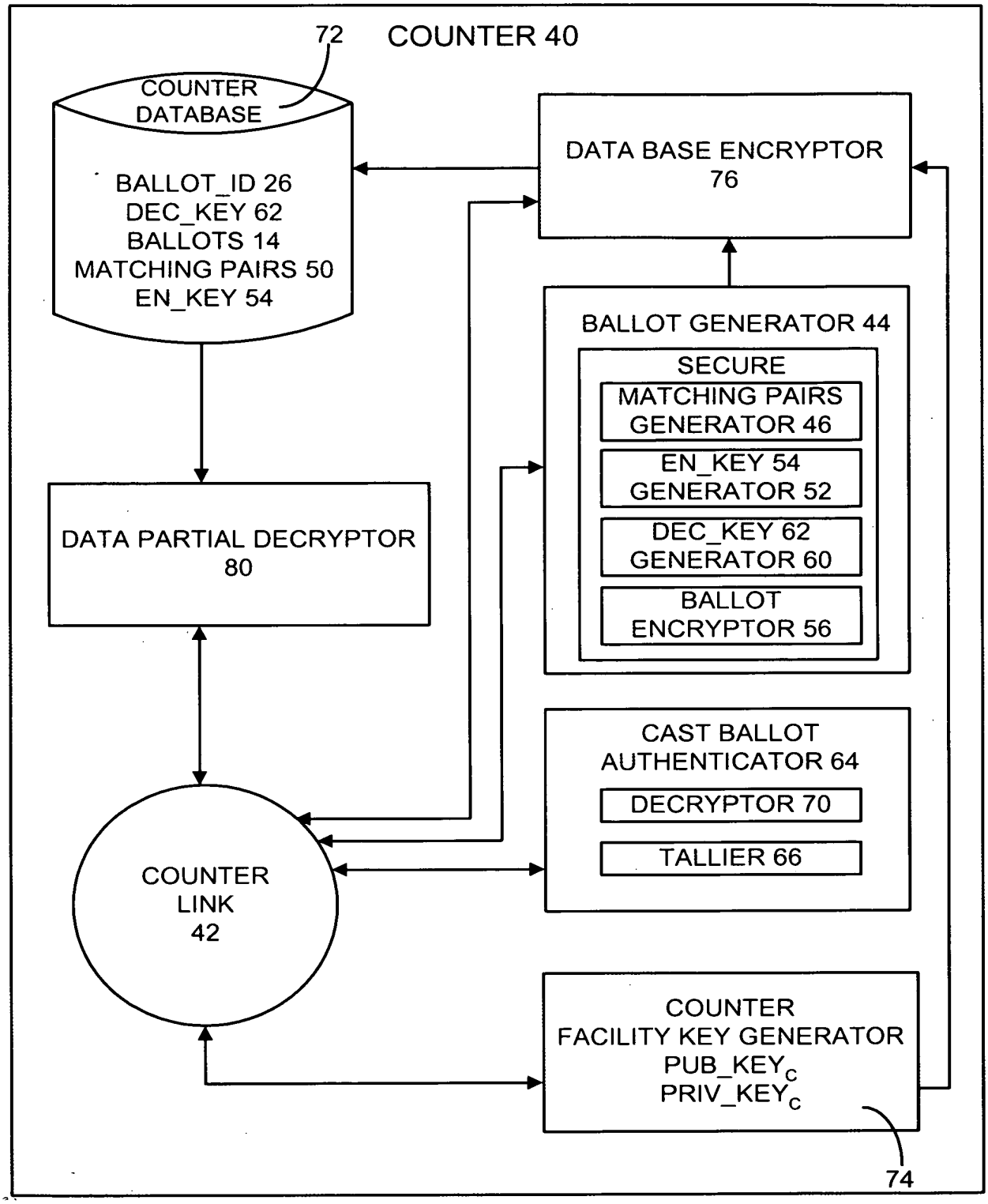
72
COUNTER 40
COUNTER DATABASE
BALLOT_ID 26
DEC_KEY 62
BALLOTS 14
MATCHING PAIRS 50
EN_KEY 54
DATA BASE ENCRYPTOR 76
BALLOT GENERATOR 44
SECURE
MATCHING PAIRS GENERATOR 46
EN_KEY 54 GENERATOR 52
DEC_KEY 62 GENERATOR 60
BALLOT ENCRYPTOR 56
DATA PARTIAL DECRYPTOR 80
CAST BALLOT AUTHENTICATOR 64
DECRYPTOR 70
TALLIER 66
COUNTER LINK 42
COUNTER FACILITY KEY GENERATOR
PUB_KEY$_C$
PRIV_KEY$_C$
74

FIG. 11

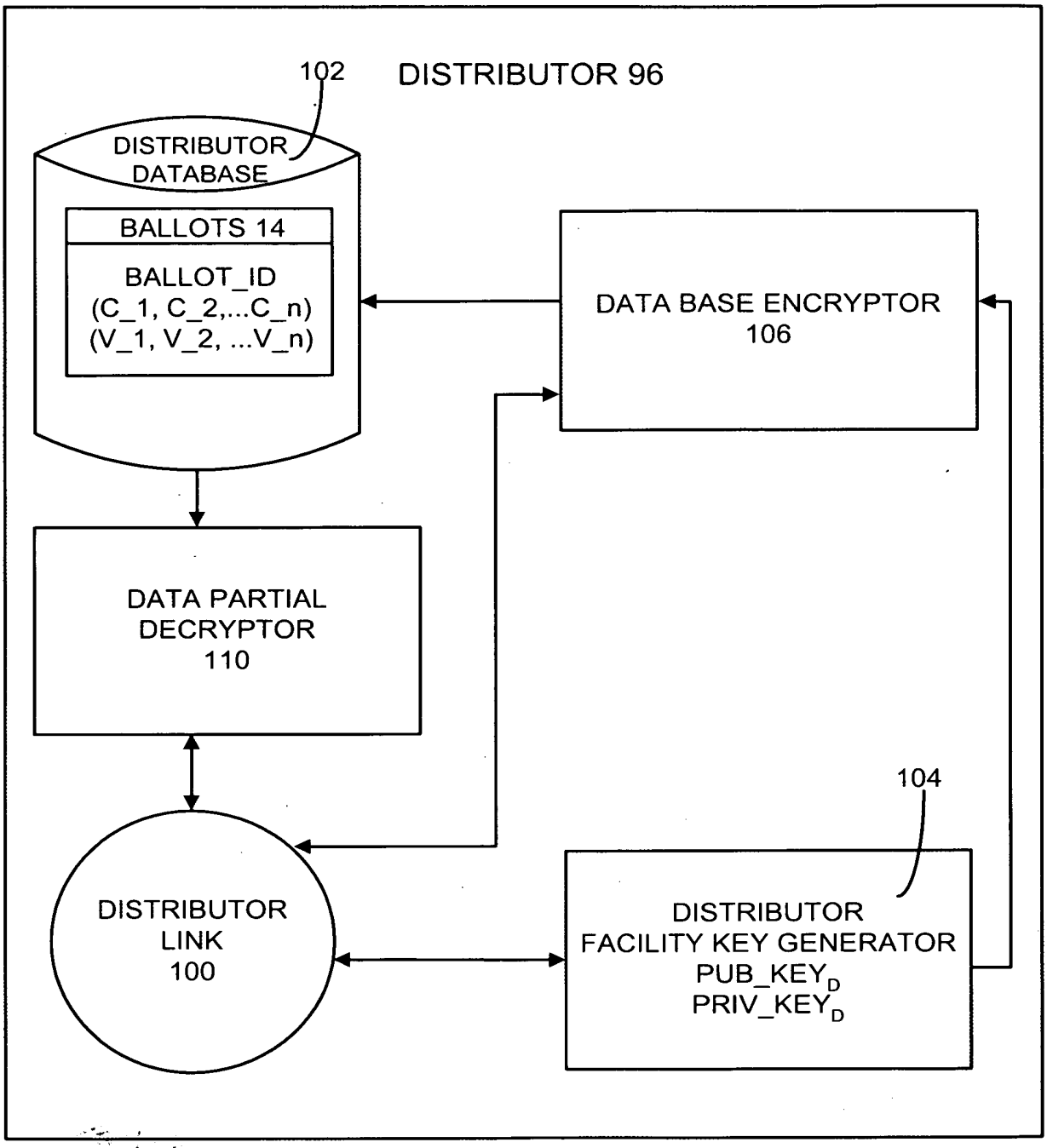
102
DISTRIBUTOR 96
DISTRIBUTOR DATABASE
BALLOTS 14
BALLOT_ID
(C_1, C_2,...C_n)
(V_1, V_2, ...V_n)
DATA BASE ENCRYPTOR 106
DATA PARTIAL DECRYPTOR 110
104
DISTRIBUTOR LINK 100
DISTRIBUTOR FACILITY KEY GENERATOR
PUB_KEY_D
PRIV_KEY_D

FIG. 12